



THE SUN SALUTATION CYCLE SPORTS FITNESS

“When the senses are stilled, when the mind is at rest, when the intellect wavers not, then the body is in perfect health and fitness”.
-Upnishad

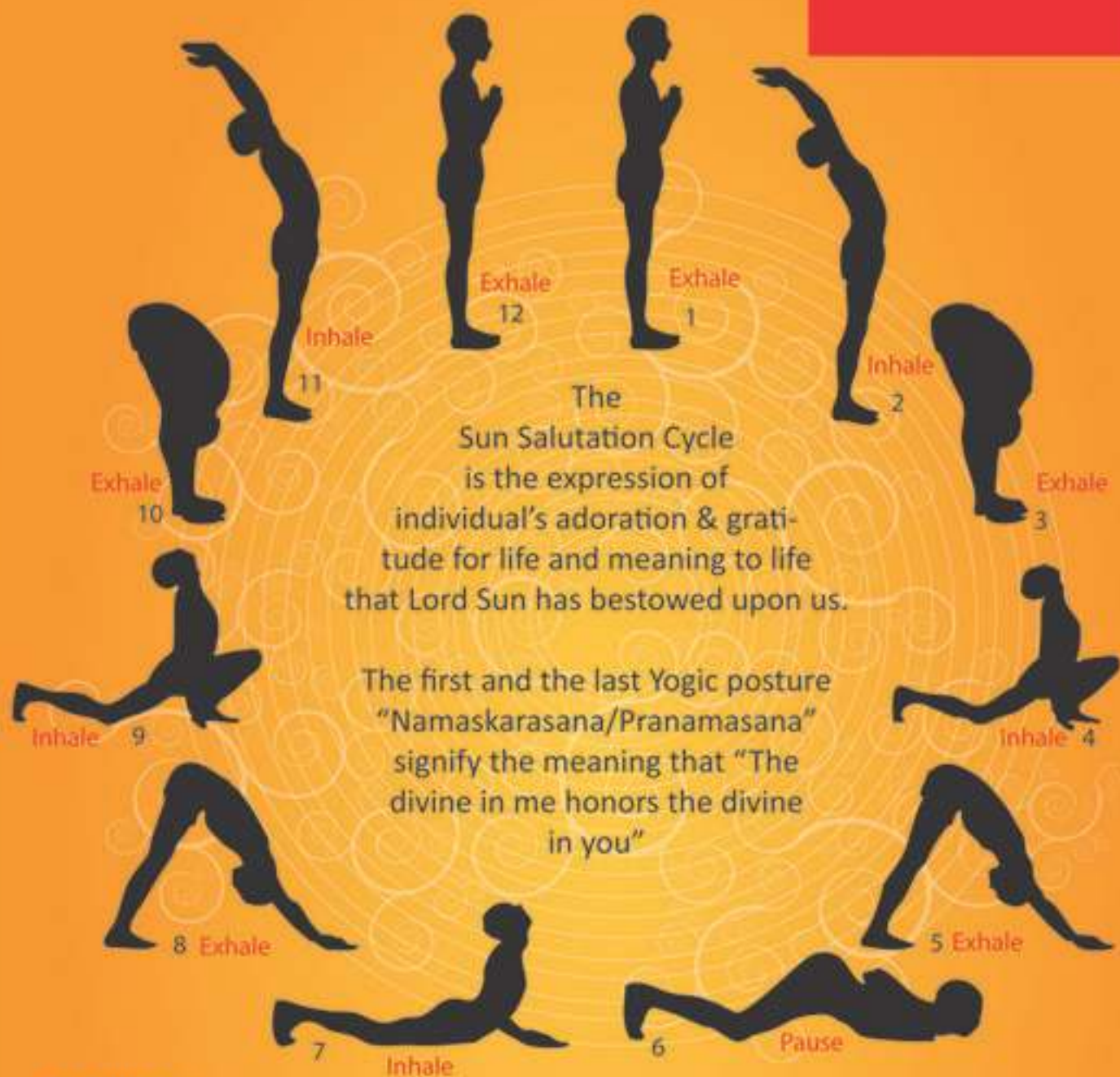
There are numerous references of praising the Sun for the purpose of good health and prosperity, in Vedas. Sun is the primal source of energy-Spiritual Mental and Physical. It flows in an individual, brings fitness at all levels, and nurtures Complete Health. Sun is the Spiritual, Mental and Physical heart of our existence.

In Yoga, the Sun is represented by Surya naadi (Sympathetic Nervous system), the Pranic channel that carries the vital life giving force. “The Sun Salutation cycle-Suryanamaskar” is dynamic yogic posture sequence practice which has been handed down from the enlightened sages of the Vedic age more than 2500 years ago. It should not be mistaken for mere physical exercise. The Sun Salutation cycle is a prayer-in motion. Its versatility and application make it one of the most useful methods on inducing a healthy, vigorous and active life, as its regular practice works on the principle of Energy Conservation. It is a general tonic and warm-up for the entire body. Sun Salutation is practiced by millions of people. Different people perform it differently. In sun salutation, transition from one posture to another needs to be understood clearly to quantify the grace in the transitive pattern.



Dr. Nilima Patel, PT, Ph.D, FIAP

The author is a Physiotherapy professional into academics and clinical practice since last 25 years at College of Physiotherapy, S.S.G. Hospital, Vadodara. The views expressed are that of the author. She can be reached at drnilipatel@rediffmail.com.



MY OUTLOOK:

Qualities of Self Reliance, Self Esteem and Independence are achieved by Emotional Maturity (Yoga), through awakening of the hidden Potential Energy within one's own body. (Mind-Body Concept)

Biomechanics & its Principles apply to economy of effort of the human potential energy but there is Energy consumption.

Yoga & its Principles apply to channelization of the human potential energy for creative & constructional dimensions in life

with the aim of Energy conservation. The Psychophysical Exercises (Yogic Exercises) works on the Principles of Muscular Relaxation & Energy Conservation.

HISTORY OF THE ORIGIN OF THE SUN SALUTATION PRACTICE

His Holiness Meherban Shrimant Raja Bhavan Rao Shrinivas 'Bala sahib', Pant Pratinidhi of Aundh (1868-1951; Raja of Aundh 1909-1947) occupies an important position in the history of surya namaskar. He helped in popularizing

surya namaskar as a simple physical exercise for all round development of an individual. It has to be noted that Raja of Aundh, himself never claimed to have invented Surya Namaskar. Further, he actually stressed on the ancient origins of this procedure long back from the Vedic and Puranic era. In those days, in the Guru Kul, the day started long before sunrise. In addition, the first session was that of Suryopasana / Surya Namaskar (Worshipping the Sun God), Sandhya Vidhi and the Gayatri Japa.



Pranamasan -Surrender to the Almighty

Historically it is widely believed in the state of Maharashtra that Shivaji Maharaj, Sage Samarth Ramdas and the Marathas have performed surya namaskar as a physical exercise to develop able bodies. This is not surprising since 'vyayama' (Physical exercise in Sanskrit) traditionally has been influenced by spirituality. Many physical practices have ingrained spiritual values in them. In addition, spiritual training is considered as a part of physical training from ancient times in India.

India has a rich tradition of yogic practices. Now-a-days yoga, the ancient practice of Postures, breathing and meditation is gaining a lot of attention from healthcare professionals. In recent times, medical fraternity is attracted towards yoga. Suryanamaskar is a part of yogic practices and is believed to be an all-round exercise.

Its objective is to convert Human Potential energy into Kinetic energy to release mental, neural and muscular knots with its direct vitalizing effect on the Solar energy system of the body.

THE SUN SALUTATION CYCLE & SPORTS FITNESS:

A sport is a physical activity requiring specific skills according to particular game played with certain set of rules and regulations governing the game. The sports activity may result in physical injuries, and these injuries produce a variety of psychological reactions.

Additionally, psychological factors, especially stress, are an important antecedent to injuries, and they play an important role in injury rehabilitation, and contribute to successful return to play.

The goal of this article is to help the team physiotherapist improve the care of the sportsman by understanding the relationship between injury and the psychological issues related to injury. To accomplish this goal, the team physiotherapist should have knowledge of and be involved with.

A sportsman is always under pressure before, during and after a game, which develops in him Emotional, Behavioral and Physical signs leading to Cognitive Reactions and Emotional Responses.

Emotional Signs experienced by a Sportsman

- ☑ Distractibility.
- ☑ Restlessness.
- ☑ Anxiety.
- ☑ Hyperexcitation.
- ☑ Anger.
- ☑ Feeling under pressure.
- ☑ Distrust.
- ☑ Decreased concentration.
- ☑ Fault finding.
- ☑ Feeling vulnerable.
- ☑ Denial of reality.
- ☑ Inability to accept.

"Sun salutation cycle overcomes & prevents these signs & uplifts mental energy."

Behavioural Signs in a Sportsman

- ☑ Tendency to overstrain.
- ☑ Increased use of tranquilizers.
- ☑ Inability to relax.

- ☑ Making foolish mistakes.
- ☑ Isolation.
- ☑ Less time for family members & relatives.

"The Sun Salutation Cycle prevents these signs & enriches & elevates moral & social adaptability."

Physical Signs experienced by a Sportsman

- ☑ Pain.
- ☑ Insomnia.
- ☑ Headache.
- ☑ Soreness.
- ☑ Increased or Decreased Appetite.
- ☑ Grinding Teeth.

"The Sun Salutation Cycle conserves mental & physical energy & prevents fatigue & overuse syndromes."

Cognitive Reactions

- ☑ Irrational & Unrealistic Belief.
- ☑ Tendency to engage in Negative thinking.
- ☑ Worry about uncontrollable emotions.
- ☑ Narrow self concept.

"The Sun Salutation Cycle allows one, to use the body as an instrument of higher awareness, so that one can receive wisdom & knowledge."

Upasthanasan -Openmindedness /Sportsmanship



During Suryanamaskar, muscles of the entire body experience stretch and pressure alternately and therefore it is said to give more benefits with less expenditure of time. It is claimed that Suryanamaskar practice gives benefits of both- asana and pranayama and improves general health and fitness.

Effective use of Surya Namaskar is experienced on three levels- body, mind and intellect. It works with equal force on these three aspects. It gives us physical and mental health with sharp intellect, which is very essential for the player for performance in the game.

The 12 Postures in the cycle signifies the 12 names of Sun, with their meaning, 12 Core Values (Love, Purity, Humility, Truthfulness, Integrity, Self Confidence, Commitment, Unity, Knowledge, Honesty, Loyalty and Silence) required in a sportsman, based on 12 Biomechanical Principles (Erect Posture Concept, Stretch Stimuli Principle, Principle of Static Stability, Principle of Dynamic Stability, Open & Close Kinematic Chain Concept, Postural Control Mechanism, Rhythmic Stabilization, Muscle Length-Tension Relationship, Principle of Mobility, Principles of Energy Conservation and Reciprocal Relaxation) and with 12 Physical Exercises (Postural, Active, Stretching, Joint Mobilization, Endurance, Strengthening, Cardio-Pulmonary Conditioning, Neural Reconditioning, Coordination, Respiratory and Balancing Exercises) to enhance awareness for victory in a game.

SUN SALUTATION CYCLE AND PRANAYAM

"Prana" is vital source of energy. It also means vitality, life and strength. "Ayama" means "to regulate", "to channelise" and "to strengthen". Pranayama is to inspire, motivate, regulate and balance the vital force that is in the body for vitality. Vigor and fitness at and for all levels in life.

The Sun Salutation Cycle is a Complete Pranayam cycle too and the most powerful weapon to combat any disorder – Mental, Emotional and Physical, and win the battle for Fitness with its breath regulation rhythm that is practiced throughout the sequence.

THE SUN SALUTATION CYCLE: THE PRACTICE-METHOD

❑ **Precaution:** Persons suffering from slip-disk, arthritis, heart attack etc including pregnant women are suggested to take medical opinion before they start the practice of Surya Namaskar. If the breathing goes fast while practising Surya Namaskar, one should either take some rest or stop performing more Surya Namaskar for the day. AVOID the Sun Salutation if one has venous blood clots, varicose veins, high blood pressure or a hernia.

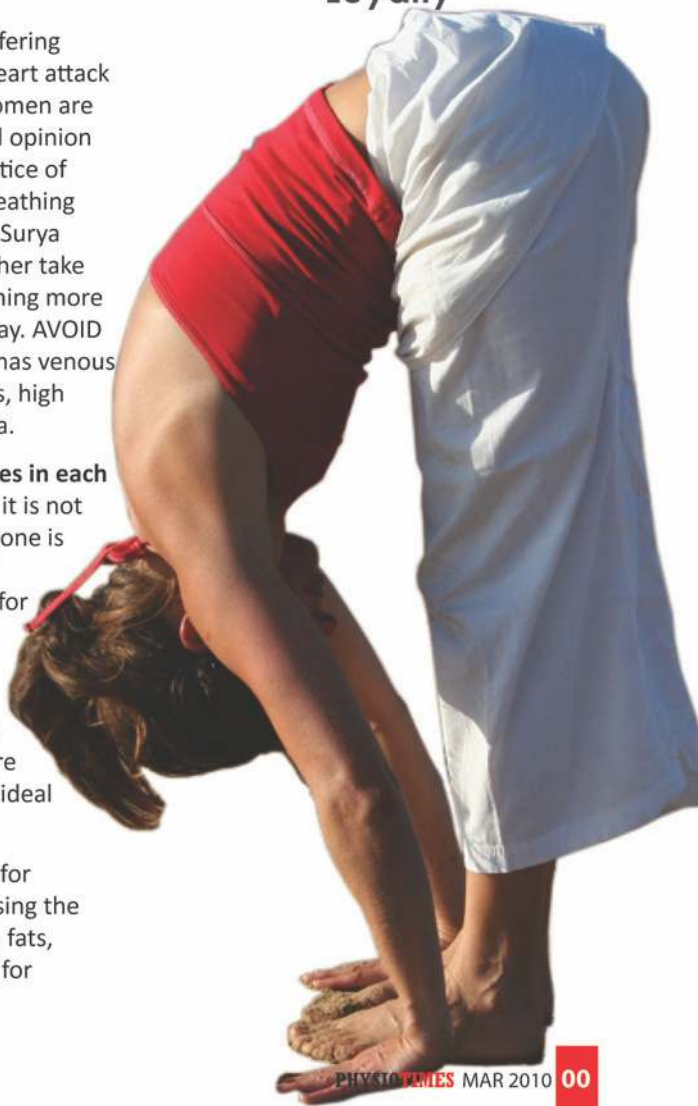
❑ **Follow the body postures in each step very scrupulously.** If it is not possible at the beginning one is free to make some minor changes, here and there, for the time being. But the final aim is to attain the perfect position. All the diagrams merely indicate only outward body posture roughly. They are not the ideal state of Asana.

❑ **Go slow.** Slow speed is for SharirShuddhi ? for cleansing the body of all sorts of toxins, fats, unwanted secretions and for

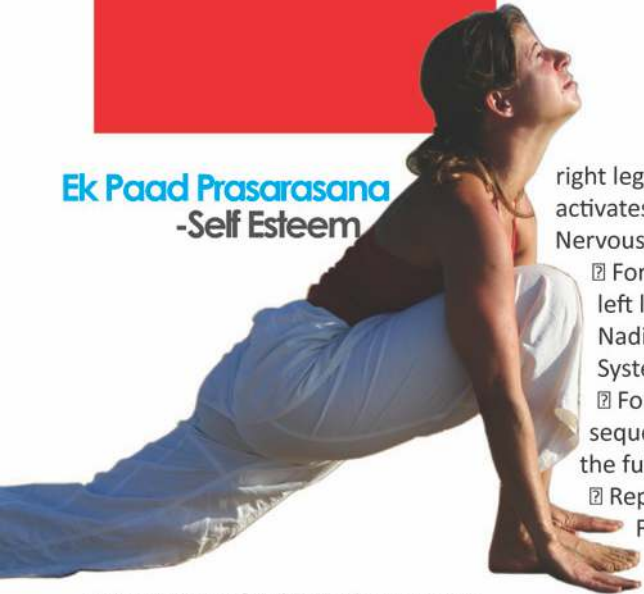
restoring health. Each movement of the Asana should be graceful. Use all the physical ability to experience the stretch and strain on the body while performing the Asana.

❑ **Be patient.** Each movement is coordinated with the breath. Inhale as you extend or stretch, and exhale as you fold or contract. Breath is the connecting link between mind and body. Regulating the breath, regulates the mind which naturally inculcates patience. Maintain slow and steady progress everyday to reach to the right posture of the Asana. Be one with the art. The Sun God will take one to the path of progress.

Padhastanasan -Loyalty



Ek Paad Prasarasana -Self Esteem



- ☐ Practice preferably in the morning.
- ☐ Practice face in the direction towards North/East.
- ☐ Position 1-12 constitute half round.
- ☐ Position 13-24 constitute second half with the other leg.
- ☐ For Mental Concentration, stretch

John Douillard explains the power of this practice as follows..

The coordination of the breathe in flexion and extension postures enhances the effect of the Sun Salute. When the body is moving in extension during the back bend, the spine, ribcage and muscles are all stretched and lengthened. With the inhalation, coordinated with back extension, the diaphragm moves in an opposite direction. As with this inhalation, the diaphragm moves downward more oxygen is pulled into the lungs.

With continual practice of this cycle, the normal and preferred, deep diaphragmatic nasal breathing is naturally reestablished. With the vigorous practice of this cycle for 20-25 rounds, it has a tremendous aerobic effect of cardiovascular system. (John Douillard, Body, Mind and Sport)

right leg back in first round, which activates Pingala Nadi (Sympathetic Nervous System)

- ☐ For Meditation Effect stretch left leg back first to activate Ida Nadi (Para-sympathetic Nervous System)
- ☐ For Complete Fitness, the sequence of 24 asana comprise the full cycle
- ☐ Repetitions: 3-6 rounds, Sports Fitness: 20 rounds, Mastery: 108 repetitions
- ☐ After practice: Relaxation in Shavasana/Makrasana.

BENEFITS:

1. Mental: Increases mental clarity & Confidence. Regular practices has been linked to improvements in self-esteem, reduced anxiety and depression and mental tension, by reducing key markers like Cortisol in addition to better endurance, Increases the blood circulation to the brain & spinal cord, thus increases concentration & focusing ability. Decreases & regulates sleep disorders, insomnia. Increases memory & keeps one alert. Increase the quantity of "good mood" neurotransmitters like Serotonin.

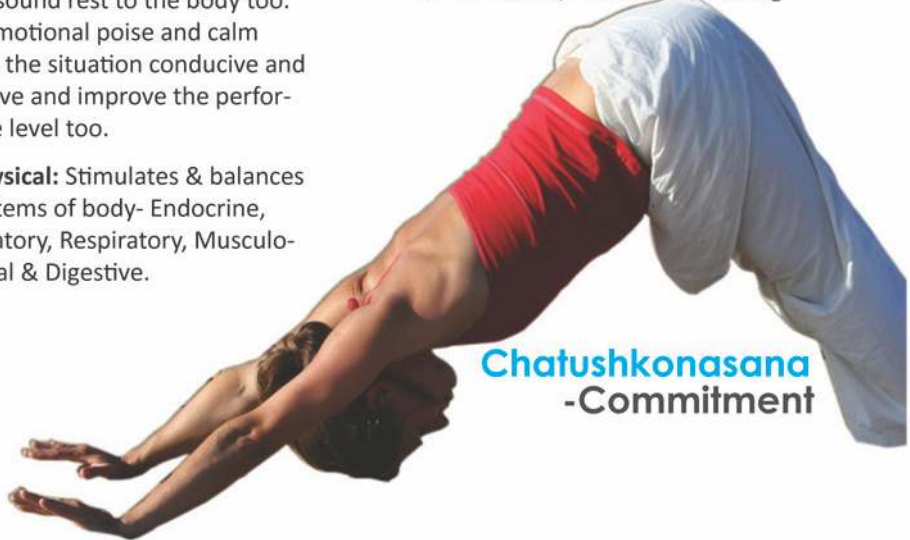
2. Emotional: Concentrating on the 12 Mantras with their significances will shut the mind off from thinking. Thoughtless state of mind contains no mental stress and strain at all. It is a real rest to the mind. Freedom from mental and emotional anxiety is the sound rest to the body too. This emotional poise and calm makes the situation conducive and cohesive and improve the performance level too.

3. Physical: Stimulates & balances all systems of body- Endocrine, Circulatory, Respiratory, Musculo-Skeletal & Digestive.

a. Cardio-Vascular System: Regular practice of suryanamaskaras is attributed to increased vagal tone and decreased sympathetic activity. Decreased sympathetic activity in turn reduces catecholamine secretion and also leads to vasodilation leading to improvement in peripheral circulation. It is also observed that regular practices reduce basal metabolic rate and resting oxygen consumption.

b. Respiratory System: Regular practices strengthen the respiratory muscles; increase the excursions of diaphragm and lungs as well as thoracic compliance. Facilitates gaseous exchange and regulates rate, rhythm & depth of respiration. Its practices also improve respiratory muscle endurance. Recent studies confirm increase in VO2 max by this training. This is due to reduction in resting oxygen consumption at the same time its better utilization at cellular level. Both the improvement in cellular machinery as well as increased lung functions explain raised VO2 max after regular practice of suryanamaskar.

c. Musculo-Skeletal System: Only 35 to 40% of our muscles are used in daily activities. Rest of the muscles remains inactive. Surya Namaskar is a physical exercise where almost 95% to 97% of our muscles are switched on to active mode. They remain active, hours ahead during



Chatushkonasana -Commitment



Ashtangpranamasan - Integrity

the day, till we recharge them the next morning. It moves the spine in various ways and positions promoting stability, flexibility, strength, energy, vitality and vigor by improving the elasticity of the entire body.

d. Digestive:

Tones up the digestive system,

e. Endocrine:

The vital points (The Chakras/The Endocrine) in the body get charged. The Surya-Tej in these Chakras gets enlightened with the thought and sight of the Sun God. The seven Chakras/The Endocrines (the vital points), in the body govern every of our activity. They motivate one to act, give ability to perform the act and get the action done. Doctors also give prime importance, directly or indirectly, to these vital points while treating a patient. Overall health and strength is restored through Surya Namaskar. Research has stated that its practices prevent Pineal Degeneration & Calcification, which is responsible for the feeling of tranquility, serenity and relaxation always.

It is said that twenty-four Surya Namaskar, if done properly, are equal to five hundred sit-ups / pull-ups. It may be a statement of exaggeration. However, it is worth to experience the physical fitness that one attains after one starts practicing Surya Namaskar. At the beginning of the practice, one Surya Namaskar consumes 02.30 KCL. This exercise burns out many calories and reduces body mass and body weight.

4. Spiritual:

It motivates and inculcates in a

sportsman a sense of responsibility, morality and ethical values and discipline. It also increase awareness in all dimensions & gives sound health & Fitness”.

THE SUN SALUTATION CYCLE: MY EXPERIENCE.

☐ When practiced with speed it is Cardio Pulmonary endurance training.

☐ When practiced with “pause” (breath hold) it is Mental endurance training.

☐ When practiced with feeling of total surrender to “The Almighty” it is Spiritual endeavor.

☐ Fitness is the ability to perform any activity without undue fatigue – mental and physical. Fitness can only be achieved with moral, intellectual, mental, social & physical consciousness with a feeling of surrender to the almighty.

☐ It also includes moral and social consciousness, adaptability and values.

☐ “The Sun Salutation Cycle imbibes in oneself the values to achieve the goal with physical, mental, social & moral consciousness.”

The Sun Salutation cycle is a complete Spiritual practice in itself for it includes Yogic Postures (Asana), Yogic breathing (Pranayama), Mind regulation (Mantra) and Meditation (Dhyana) technique for Sports Fitness (Physical, Mental and Spiritual).

☐ The sun salutation cycle – “the prayer in motion” through these dynamic yogasanas sequence bestows upon the sportsman, his blessings & make him/her reach to illuminated heights of achievements and success in a game..



Bhujangasana -Honesty

Reference :1. Vishwas Mandlik. Yog Shikshan Mala, Yog Parichay: 2001 6th Ed. Yogchaitanya Publication, Nashik: 36-45 2. Datey KK, Gharote MS. Yoga for your heart: 1985 Jaico Publishing house, Mumbai, pg 11-15 3. Ranade VG. Practical physiology. 2nd ed. 2000 Pune Vidyarthigriha Prakashan. 4. William D. McArdle, Frank I. Katch, Victor L. Katch. Individual differences and measurement of energy capacities. In Exercise Physiology Energy, Nutrition and Human Performance 5th Ed. Lippincott Williams and Wilkins, Baltimore, USA 2001; 242-243 5. Wenger M.A. and Bagchi B.K. Studies of autonomic functions in practitioners of yoga in India.1961 Behavioral science, 312-323. 6. Vempati RP, Telles S. Yoga-based guided relaxation reduces sympathetic activity judged from baseline levels. 2002 Psycho.Rep, 90: 487-494 7. Karambelkar P.V. and Bhole M.V.. Heart control and yoga practices. 1971 Yoga Mimansa, 53-65 8. Makwana K., Khirwadkar N. and Gupta H.C. Effects of short term yoga practice on ventilatory function tests. 1988 Indian journal of physiology and pharmacology, vol.32, 202-207. 9. Joseph S. Alter, Yoga in Modern India: the body between science and philosophy, Princeton University Press (year 2004)