

**LITERARY RESEARCH ON STUDY OF INVOLVEMENT OF VARIOUS  
BODY PARTS IN SURYANAMSKAR WITH RESPECT TO RACHANA****SHAIR****Dr. Shubhangi G. Nimje\*<sup>1</sup>, Dr. Yogeshwar N. Deshpande<sup>2</sup> and Dr. Sudhir M. Kandekar<sup>3</sup>**

<sup>1</sup>P.G. Scholar, Department of Rachana Sharir, R.T. Ayurved College and Hospital, Akola,  
Maharashtra.

<sup>2</sup>Associate Professor and Guide, Department of Rachana Sharir, R.T. Ayurved College and  
Hospital, Akola, Maharashtra.

<sup>3</sup>Principal R.T. Ayurved mahavidyalay, H.O.D., Professor, Department of Rachana Sharir,  
R.T. Ayurved College and Hospital, Akola, Maharashtra.

Article Received on  
28 Jan. 2025,

Revised on 18 Feb. 2025,  
Accepted on 11 March 2025

DOI: 10.20959/wjpr20256-35900



**\*Corresponding Author**

**Dr. Shubhangi G. Nimje**

P.G. scholar, Department of  
Rachana Sharir, R.T.  
Ayurved College and  
Hospital, Akola,  
Maharashtra.

**ABSTRACT**

An old and sacred Indian Yogi technique called *Surya Namaskar* is used to express gratitude to the sun. Thousands of years ago, the great Patanjali and his disciples created the *SuryaNamaskar* traditional *Yoga* practice to salute the sun. The sequence of 12 dynamically coordinated *yoga* positions known as *Suryanamskar* that are performed in rhythm with the breath. A well-known and important method use in yogic practice is the *surya namaskar*. Its adaptability and practice makes one of the best way to promote a healthy active life. The practice is widely recognise for its positive impact on the muscular System, enhancing-flexibility, strength, and endurance. *Surya Namaskar* is an effective way to loosening, stretching, massaging, and toning all the joints muscles and internal organs of body.

**KEYWORDS:** *Yoga, surya namaskar.*

**INTRODUCTION**

*Yoga* is becoming more popular in different parts of the world. For restless mind it gives relaxation, for sick it is booster, and for common man it is fashion of the day to keep himself fit and beautiful.<sup>[1]</sup>

Some use it for developing memory, intelligence, and creativity with the manifold advantage it is becoming part of education.

**Concept of health and yoga-** according to WHO the level of health is defined as a state of complete physical, mental and social well being and merely an absence of disease or infirmity.<sup>[2]</sup>

Who also suggest 4<sup>th</sup> dimension spiritual health.

**Yoga Sana-** its root in Indus valley civilisation in the northwest of India, yoga is thought to be 4000-8000 years old. the yoga system and the yoga tradition are mentioned in one way or another in all four of the *vedic samhitas*.

*Yogasana* are physical postures often imitating the natural position of the animal meant to tranquil the mind. through these postures are brought the physical revitalisation and deep relaxation and mental calmness.<sup>[3]</sup>

“*Nasti yoga saman Balam*” (*Mahabharata*) indicates that Yoga is most powerful means of self realisation.<sup>[4]</sup>

### Concept of yoga a/c to ayurved

“लाघवं कर्म सामर्थ्यं दिप्तोऽग्निमेदस् क्षयः

विभक्तं घनं गात्रत्वं व्यायामादुपजायते ॥”<sup>[5]</sup>

Exercise makes the body light enhances the digestive fire, reduce fat, and strengthen and nourishes the organs of the body.

“अर्धशक्त्या व्यायामः”<sup>[6]</sup>

Always done ‘Exercise with half strength’ according to ayurveda.

**Surya namaskar-** It has been used for thousands of years as from of sun worship. The great ‘*patanjali*’ and his disciples created the *surya namaskara* a traditional yoga practice to salute the sun. *surya* means ‘sun’ and ‘*namaskara*’ means salutation or to greet.<sup>[3]</sup> They advised everyone to practise it early in the morning, on an empty stomach facing the rising sun for optimum health, endurance, mental and physical stability and strength.

**General information and instructions**

1. Age: 12 to 80 yrs
2. Sex: male and female
3. Time: prefer daytime in the early sunshine.
4. Season: any season through the year
5. Place: clean, 1\*3 meter only
6. Cloth: tight cloth should avoided
7. Equipment: no specific equipment required
8. Drink and diet.: after 15 minutes of yoga practice

**AIM**

To determine involvement of anatomical structure in 12 posture of Surya Namaskar.

**MATERIAL AND METHOD**

This Study, is purely a literally study in which material is collected from the classical text of *Yoga* and *Ayurved*, modern book of anatomy, general reviews and internet, etc.

—————*SURYANAMSKAR*—————

**STEP 1 - (PRANAMASAN)** standing prayer posture

- Start by standing in front of mat with your hands at your sides.  
Chant mantra: **OM MITRAYA NAMAH**  
(greeting to all friends)<sup>[7]</sup>
- Bring hand in Namaste position and lay them in front of chest.
- Relax body maintain a normal breath stay like this for 3 sec.

**Envolvement of various body parts**

- Bone:- spine, metatarsal, humerus, ulna, radius, femur
- Muscle:-quadriceps, hamstring, and erector spine for posture stability
- Cartilage:-knee and ankle cartilage
- Joint :-Spine, knee, ankle joint

- **Benefits**- provide relaxation from anxiety and mental tension ,first brings calmness and increase concentration. straightening thigh, knee, and ankles, improve posture.

### STEP 2- (*HASTH UTHANASAN*)

- Chant mantra: **OM RAVAYE NAMAH** (Greeting to the radiant one).<sup>[7]</sup>
- After the prayer, raise your hands and pull your body back from your toes to your fingertips.
- Keeping your biceps close of the ear effectiveness.



### Envolvement of various body parts

- Bone:- spine, scapula, humerus, hip bone, lumbar bone
- Muscles- latissimus dorsi, erector spine, gluteus, deltoid, triceps, rectus abdominus, pectalis major, teres minor, teres major, trapezius
- Cartilage:-shoulder and spinal disc
- Joints:- shoulder joint, hip joint, thoracic and lumbar spine

**Benefits** -straightening the intercostal muscles and abdomen.

### STEP 3- (*HASTH PADASAN*)

- Chant mantra:**OM SURYAYE NAMAH** (Greeting to he who initiates all activity)<sup>[7]</sup>
- Now bend from the waist, touch the floor with both palms.
- Keeping the back straight
- Try to touch your head to your knee.
- Stay like this for 3 second.



### Envolvement of various body parts

- Bone: – lumbar spine, cervical spine ,humerus ,radius ,ulna, palmar bone, femur.
- Muscles:-hamstring ,erector spine, gluteus Maximus, flexor carpi radialis ,extensor carpi ulnaris, extensor digitorum muscles

- Cartilage:- knee and spinal disc
- Joints:- hip joint, knee joint

Benefits -Increases spine and waist flexibility.

It helps liver function while also enhancing muscle strength.

#### STEP 4- (ASHWA SANCHALANASANA)

- Chant mantra: „**OM BHANAVE NAMAH**“  
(Greetings to he who illuminates).<sup>[7]</sup>
- Inhale to push the left leg back as far as possible, the foot should be bent to touch the floor.
- The right knee should be between the palms.



#### Envolvement of various body parts

- Bone:- pelvis, femur, humerus
- Muscle:- Sternocleidomastoid, lungs Capitis, and Longus Colli, abdominal muscles Rectus Abdominis, Transverse Abdominis, Abdominal External, and Internal Oblique, Quadrates Lumborum Muscles, and the iliopsoas major, gluteus maximus.
- Cartilage:-knee and hip cartilage
- Joint:-hip joint, knee joint, elbow joint ,shoulder joint

Benefits:- Balances the central nervous system, strengthens the spine.

It regulates, abdominal organs such as the kidneys and liver.

Increases willpower. increases lung capacity.

#### STEP 5: (CHATURANG DANDASAN)-

##### LOW PLANK

- Chant mantra: „**OM KHAGAYA NAMAH**“ (Salutation to the All-pervading One).<sup>7</sup>
- Starting from the fourth position, progressively bring the second leg alongside the first
- The palms and toes should support the



entire body weight

- Hold the position for three second.

### Envolvement of various body parts

- Bone:-shoulder, elbow, knee and toes bear weight.
- Muscles:-engages core muscles, triceps, deltoid ,pectoral ,quadriceps
- Cartilage:-wrist cartilage
- Joint:-shoulder, elbow and wrist joint

**Benefits:-** The pectorals Major and deltoid in front of the body tend to be powerful  
Maintaining good posture and arm strength.

**STEP 6:** (*ASHTANG NAMSKAR*) (eight limbed position)

- Chant mantra : '*OM PUSNE NAMAH*'<sup>[7]</sup>
- Lower your chest towards the ground and bend both arms at the elbows.
- The next eight organ should touch the ground forehead, chest, palms, both knees and fingers.
- Since only eight parts raised on the ground, so it is called Ashtang Pose.



### Envolment of various body parts

- Bone:-sternum,ribcage,arms,legs
- Muscles:-triceps, chest, and core muscles work together
- Cartilage:-elbow and knee cartilage.
- Joints:-elbow, shoulder ,knee joints.

**Benefits:-** this is a great way to bring strength and validity to the spine while preparing your body for deeper pose.

**STEP 7:- (BHUJANGASANA) cobra pose**

- Chant mantra:- **OM HIRANYAGARBHAYE NAMAH**<sup>[7]</sup>  
(salutation to the golden cosmic womb)
- Now lift your body above the waist, bending it slightly backward, make sure your legs and thighs are touching the ground and your back is in semi circular position.
- Now raise your body above the waist, bend it slightly backward.
- Make sure your feet and thighs are touching the ground and your back is in a semi circular position and inhale.

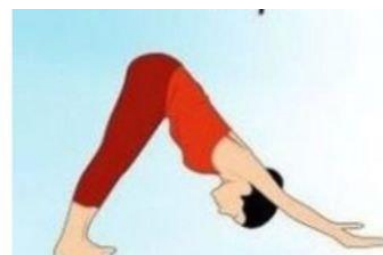
**Envolvement of various body parts**

- Bone:-vertebra in the lumbar and thoracic spine
- Muscles:-spinal extensors, chest, and shoulder muscles.
- Cartilages:-spinal disc are gently compressed
- Joints:-shoulder and lumbar spine

Benefits:- makes the spine and waist flexible and strengthens the muscle.

**STEP8:- (ADHO MUKHA SWANASANA)**

- Chant mantra:- '**OM MARICAYE NAMAH**'<sup>7</sup>(salutation to the golden rays of the sun,)
- While Exhaling from Bhujangasan pose and now lift your waist and arm fully extended with your hand and feet flat on the ground.
- Make sure your heels, touch the floor.
- Stay in the position for three second and hold your breath.



**Environments of various body part**

- Bone:-spinal column and leg bones
- Muscles:-hamstring, calves, and shoulder stretch
- Cartilage:-knee and wrist cartilage
- Joints, shoulder, wrist, hip, and ankle joint

Benefits:-beneficial for spine and waste muscles.

strengthening the spine, strengthening the muscles of the chest.

**STEP 9:-** SAME AS STEP 4

**STEP 10:-** SAME AS STEP 3

**STEP 11:-** SAME AS STEP 2

**STEP 12:-** SAME AS STEP 1

**DISCUSSION**

Surya *Namaskar* consists of 12 different physical positions. The *asanas* include flex and stretch the limb and spinal column to their fullest extent.

*Tadasan*(upward stretch posture) or *namaskarasan*

*Tadasan* stretch the arm, chest and abdomen so the muscle are toned up and deep breathing is greatly helped.<sup>[8]</sup>

*Padhastasan*(forward bend posture)

It stretches the muscles of the back and toned them stimulate the spinal cord and improve circulation in the back, face and head. The step 4 and 9 tone up the muscles of the leg and arm. Step 5 tone up the toes, arm and neck muscles.

Step 8 Give exercises to abdomen and pelvic Region in particular, the back muscles are also stretched and tone up.<sup>[8]</sup>

The practice of a *Asanas* in Surya *namaskar* activates a total of 14 muscles group, including the following: pectoralis major, anterior deltoid, medial deltoid, biceps brachial, triceps brachii, upper trapezius, middle trapezius, rectus abdominis, erector spinal, rectus femoris,



vastus medialis, biceps femoris, gastrocnemius lateralis, tibialis anterior. This compression engagement makes Surya Namaskar a highly effective full body exercise.<sup>[9]</sup>

Surya Namaskar in the coordinate movement of multiple joints and bones throughout the body, promoting flexibility, strength, and mobility. The key joints and bones involve in surya namaskar are shoulder, joint and Girdle, elbow joint, wrist, joint, spinal joints, hip joint, knee joint, ankle joint, rib cage and sternum are involved.

Movement such as flexion, extension, abduction, adduction, and rotation during arm, lifts, and down, facing poses. Flexion extension during transition such as chaturang dandasan, flexion, extension and stabilising during weight bearing pose like Bhujangasan and Adhomukh shavasan. Flexion and extension during transitions and lunges. expansion and contraction of the rib cage during deep breathing associated with *Surya Namaskar* by involving this joints. Surya Namaskar enhance overall body, mobility, flexibility, and functional strength.

Nearly all muscles and muscles group are involved

Extension and flexion muscles of the abdomen, lower extremities and arm.

Mainly vertebral muscles cervical, thoracic, and lumbar are involved.

## CONCLUSION

Effect on joints: *Surya Namaskar* improve joint mobility and reduce stiffness by involving a wide range of motion. The repetitive rhythmic movement lubricate the joints, and enhancing joint health, particularly in shoulder, hips, knees, and spine.

Effect on bones: regular practice helps maintain bone density due to the weight bearing nature of the postures. It improve, strengthening and reduce the risk factor.

Effect on muscles: *surya Namaskar* target major groups, the core legs, and back, promoting muscle tone and strength, it enhance muscular endurance, reduces fatigue and help in injury prevention by improving balance and coordination, overall physical performance.

*Surya Namaskar* is an effective low impact exercise for maintaining and improving the health of joints, bones, and muscles making it a holistic practice suitable for individuals.

*Surya Namaskar* (Sun Salutation) has shown positive effects on mental balance by combining physical postures, breathing techniques, and mindfulness. Regular practice can enhance focus, reduce stress, and stabilize mood, as it encourages mind-body harmony.

## REFERENCE

1. S.N. Mahajan, The science of yoga and consciousness, V.K. Publisher, edition 1<sup>st</sup>, 1987; 82.
2. <https://www.who.int>
3. S.N. Mahajan, The science of yoga and consciousness ,V.K. Publisher,edition 1<sup>st</sup>, 1987; 82.
4. Satyendra Prasad Mishra, yoga and ayurveda, chaukhambha Sanskrit Sansthan Varanasi, 1st edition., 1989; 11: 7.
5. Ashtang hruday sutrastan 2/10 edited and translated by Brahmananda Tripathi chaukhamba Sanskrit sans than Delhi re edition., 2022; 30.
6. Ashtang hruday sutrastan 2/10 edited and translated by Brahmananda Tripathi chaukhamba Sanskrit sans than Delhi re edition., 2022; 30.
7. Dept.of Rachana Sharir, Parul university of ayurved, Vadodara, Gujarat. The impact of Surya Namaskar(sun salutation)on body flexibility and endurance of healthy individual, anatomical perspective, 12(5): 851-865.
8. Dr Ravi R javalgekar, The yoga science, chaukhambha Sanskrit sansthan Varanasi 1st edition, 1990; 22.
9. Dept. of Rachana Sharir, Parul university of ayurved, Vadodara, Gujarat. The impact of Surya Namaskar (sun salutation)on body flexibility and endurance of healthy individual, anatomical perspective, 12(5): 851-865.