

A REVIEW ON ROLE OF MUSCLES IN SURYA NAMASKAR

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ABSTRACT

Article Received on
23 Nov. 2022,

Revised on 14 Dec. 2022,
Accepted on 04 Jan. 2023

DOI: 10.20959/wjpr20232-26823

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Sun Salutation is an important practice in *Hatha Yoga*. It harmonizes the movements of your body with your breath and this rhythmic process done in the early morning has many mental, physical and energetic benefits. Surya namaskar, salutation to sun it is a full body workout sequence of 12th different yoga poses performed dynamically in synchronic with the breath the sequence stimulates the muscle of body in a such way the action e.g., hyperflexion of spine stimulates trapezius erector spine and hyperextension of spine stimulate muscles of anterior and posterior abdominal wall as well as muscles of calf and hamstring.

KEYWORDS: *Surya namaskar*, flexion and extension of spine, muscles of calf and hamstring, mental and physical health.

INTRODUCTION

In *Sanskrit*, *surya* means sun and *namaskar* means greeting or salutation. Sun Salutation is an important practice in Hatha Yoga.^[1] It harmonizes the movements of your body with your breath and this rhythmic process done in the early morning has many mental, physical and energetic benefits. Surya namaskar, salutation to sun it is a full body workout sequence of 12th different yoga poses performed dynamically in synchronic with the breath the sequence stimulates the muscle of body in a such way the action e.g., hyperflexion of spine stimulates trapezius erector spine and hyperextension of spine stimulate muscles of anterior abdominal wall e.g., rectus abdominus, and some asana or pose act on hamstring muscles and muscles of gluteus region. Although anyone can perform Surya namaskar at any time of the day. But it

would be best at morning time as level of testosterone is high for muscle strength and endurance although it provides a complete work out for body mind and spirit.

PROCEDURE OF SURYA NAMASKAR

Surya namaskar is a technique which bring 12 pose sequence the first pose of Surya namaskar asana can be accomplished by standing in upright position placing feet close to each other. taking deep breath relax shoulder raise your arms from sides and join your palms in front of your chest. it called **pranamaasan** or namaste position.

After pranamaasan lift your arm up while slightly bending backward push the pelvis forward and hands backward in a such way the biceps close to your ear, stretching the whole body it is **hasthuthasasan**.

Now exhale and bend your spine forward or hyperflexion of spine try to touch toes with straighten knees it's called **hasthpadasan**.

After hasthpasaasan bend knees slight and rest palm on the floor on the floor in the line with feet bring right knee forward the right side of chest while stretching the left leg backward and facing forward is **ashwasandhalanaasan**.

Bring right leg next to left leg shoulder is just above the wrist joint. Keeping body parallel to ground the entire body feet to head is in straight line is **dandaaasan**.

After dandaaasan bring the knees down to the floor rest chin on the floor and raise hips slightly from ground hands knees chin shoulders chest touch the floor and buttocks elevated and suspend in air hold the position for as long as comfortable it is **astang namanaasan**.

After astang naman slowly raise head and trunk in a such way the rest on body close to ground / surface **bhujangaasan**.

No lift hips gently to form inverted v shape with straight the elbow and knee while trying to keep heels and palm on the ground it is **parvataasan**.^[2]

After parvataasan bring body in ashwasanchaalan then hasthpadasan the hasthapadaasan the pranaamasan respectively.^[3]

DISCUSSION ON POSTURE OF SURYANAMSKAR

During **panamaasana** forearm is in flexion mode and shoulder slightly adducted the prime agonist are pectoralis major and anterior head of deltoid muscles and due to erect position of spine the cervical and lumbar region gets lordotic and thoracic and sacrum gets kyphotic respectively.^[4]

During **hasthauthaasana** the prime action are elevation of arm hyperextension of spine, anterior tilt of pelvis due to elevation of arm beyond the shoulder level the Rotators cuff and lateral head of deltoid get involved due to hyperextension of spine upper trapezius contract and erector spine and adjacent muscles of vertebrae comes in action and due to this procedure whole body weight comes in calcaneus bone endure to the calf muscles get contract/activated and ultimately it lead to increase venous blood.

Hasthpaasana include hyperflexion of spine with straighten of knee and elbow joint due to hyperflexion of spine the abdominal muscle e.g., rectus abdominus comes in contact and is good to burn fat surrounding umbilical region and due to head downward the circulation of blood gets increases in cephalic region. Due to straighten of knee joint tension occurs in hamstring muscles.

In **ashwasanchlanasana** one is hip flexion with knee joint and one leg is knee flexion with face forwarding due to flexion of knee and hip joint the gluteus muscles and hamstring get contracted and due to facing forwarding tension exist In gluteal and hamstring muscles.^[5]

Due to entire weight on wrist joint the muscle of arm get majorly involved & due to plantarflexion of foot the tension occurs in calf muscle all this procedure lead increase venous blood into heart. Feet on plantarflexion and resting on toes and putting pressure on abdominal area and stretched muscles.

During **astang naman aasasana** due to posterior tilt of pelvis the muscles of gluteus region involved due to elbow in flexion pressure create on triceps muscles.

During **bhujangasana** body lifted up to umbilicus with palm on surface tension create on major in abdominal muscle and with thoracolumbar region get hyperextension mode due extension of wrist joint the extensor compartment of forearm get contract bhujagasaasna involved latissimus dorsi and lower trapezius.^[6]

During **parvataasna** due to inverted v shape of body major pressure create on calf muscle which lead in increase venous return.

CONCLUSION

The sequence of 12 different poses stimulates muscular activity as well as increase blood circulation. **Pranamaasan** correct the body posture, **hasthuthaasan** and **hasthpadasana** both affect the muscles of back as well as muscles of abdomen. **Aswasanchalan** and **astang naman** together gives strength and support the pelvis diaphragm and gives strength of muscles of upper limb. **Bhujangaasan** maintain the lordotic curvature of lumber spine and also increase flexibility of body while **parvataasana** increase the blood circulation in cephalic region and stretches shoulder and chest. However, Surya namaskar could do at any time of the day but it would be best at morning time as level of testosterone is high for muscle strength and endurance and provides a complete work out for body mind and spirit. This is especially beneficial for women as it ensures regular menstrual cycle. Therefore, performing a few rounds of Surya Namaskar before starting your regular routine or practicing it on its own is essential to mental and physical health.

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