

PASCHIMOTTANASANA AND ITS PHYSIOANATOMICAL ASPECT

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ABSTRACT

Yoga practices are very ancient. The system of *yoga* advocated by *Patanjali* consists of eight limbs. The third limb of *yoga* is *asana*. *Asana* brings steadiness, health and lightness to body. *Asanas* are not merely gymnastic exercises, but they are postures. These postures produce mental equilibrium and prevent inconsistency of mind. By definition *asana* means effort becomes effortless so keep practicing until *yoga* practitioner (students or patients) absolutely comfortable in final pose. *Asanas* have been evolved over the centuries so as to exercises every muscle, nerve and gland in the body. They secure a fine physique, which is strong and elastic without being muscle bound and keep the body free from disease. They reduce fatigue and soothe the nerves. But their real importance lies in the way they train and discipline the mind. In the word *Paschimottanasana*; *paschima* literally means the west. In this *asana* the back of the whole body is intensely stretched hence the name is given. It gives flexibility to the back bone. Stimulates the spinal nerves and back muscles. It improves digestion, energises the whole body and relieves constipation.

KEYWORDS: spine, organs, *paschimottanasana*, hamstring, *sushumna*, muscles.

INTRODUCTION

Yoga is one the most perfect of Indian sciences based mainly on the principles of physiology and anatomy. The term '*Yoga*' has its verbal root as *Yuj* in Sanskrit. *Yuj* means joining. It is joining of *Jivatma* with *Paramatma*.¹

Asana implies an easy and steady bodily position, necessary for staying healthy. *Asana* relate more to the body from the *ashtangas*. *Asana* is not a gymnastic alone, it is an integrated system. The *asana* are the procedures for gradual enrichment with giving their benefits.

In Sanskrit, the sides of the body have been given different names. The anterior or eastern aspect is the front of the body from the face down to the toes. The crown of the head is the upper or northern aspects while the soles and heels of the feet from the lower or southern aspect of the body². The back portion of the body is called the '*paschima*' side³.

In some *asanas* the body gets stretched. Stretching and pulling of the body and spinal column is achieved in various ways. In *suptvajrasana*, there is a stretch and pull on the anterior side of the body. However in

paschimottanasana the whole back side of the body including the spinal column gets stretch.

Why the name is given?

Paschima literally means the west. It implies the back of the whole body from the head to the heels. In this *asana* the back of the whole body is intensely stretched hence the name is given.⁴

ALTERNATIVE

NAMES:

Paschimottanasana is also known as the Intense Dorsal Stretch Pose as it engages the dorsal muscles of the back. The dorsal muscle (often referred to as 'lats' among fitness enthusiasts) is the largest muscle on the back and is located below the shoulderblades.⁵ *Ugrasana*: -*Ugra* means formidable, powerful and noble. *Brahmacharyasana*; *Brahmacharya* means religious study, self-restraint and celibacy.⁶

Leading and preparatory practices:

Persons of middle or advanced age may find it pretty hard to achieve the final stage of this *asana*. Therefore before practicing this *asana* it is advisable to practice *ardha-paschimottanasana* or *janushirshasana* followed by *sulabha-paschimottanasana* for few days. If this goes difficult one can first practice *hastpadasana* and *ek-pada-hastasana* for some days, which will facilitate the practice of the other two *asanas*. Once the technique of these postures is mastered, the practice of *paschimottanasana* becomes easier⁷. *Sukshma vyayama* or joint rotations help body to become flexible for practice of *asana*.

TECHNIQUE TO PERFORM

PASCHIMOTTANASANA: Detail and step by step description from different text book is summarized here.

Purvasthiti- sithiladandasana: Sit on the floor with the legs stretched straight in front apart. Slightly incline the trunk backwards, supporting the body by placing the hands behind. Fingers point backwards. Let head hang freely behind or rest on either side of the shoulder. Relax.⁸

Gently bring the legs close together (with toes, heels, ankles and knees touching each other). Place the palms on the floor by the side of the hips. Make spine, neck and head erect. Concentrate on breathing. Take a few deep breaths.⁹

Inhale; raise both the arms sideways at shoulder level parallel to the ground. Turn the palms facing upwards. Continue to inhale and raise the arms further up vertically biceps touching the ears and stretch the trunk from the coccyx region. Now turn the palm forwards. Exhale; bend the trunk forward bring the arms parallel to the ground in front. Exhale completely; hold the right big toe between the right thumb and the index and middle finger and likewise the left big toe.¹⁰

For getting stability and easiness of practice in this *asana* follow the procedure given here. Extend the spine and try to keep the back concave. To start with the back will be like a hump. This is due to stretching the spine only from the area of the shoulders. Learn to bend right from the pelvic region of the back also to extend the arms from the shoulders. Then the hump will disappear and the back will become flat. Take a few deep breaths. Now exhale, bend and widen the

elbows, using them as levers, pull the trunk forward and touch the forehead to the knees. Gradually rest the elbows on the floor, stretch the neck and trunk, touch the knees with the nose and then with the lips. When this becomes easy, make a further effort to grip the soles and rest the chin on the knees. When this also becomes easy, clasp the hands by interlocking the fingers and rest the chin on the shins beyond the knees. When this position becomes easy, grip the right palm with the left hand or the left palm with right hand beyond the outstretched feet and keep the back concave. Take a few deep breaths. Exhale and rest the chin on the shins beyond the knees. See that the back of the legs at the knee joints rests firmly on the ground. In the initial stages the knees will be lifted off the floor. Tighten the muscles at the back of the thighs and pull the trunk forward. Then the back of the knee joints will rest on the floor. Try and stay in whichever of the above positions practitioner can achieve from 1 to 5 minutes, breathing evenly. Advanced pupils may extend the hand straight, rest the palms on the floor, join the thumbs beyond the outstretched feet and rest the chin on the shins beyond the knees. Stay for a minute or two with even breathing. One does not feel any weight on the back in correct *paschimottanasana*.¹¹ Return to first step reversing the steps and the breathing. Relax in *sithilidandasana*.¹²

Breathing: - In the final stage of the *asana* breathing is as usual, maintain normal breathing. There is a tendency to contract the abdominal muscles and hold the breath owing to one's competitive spirit and perseverance misapplied. Beware of these

tendencies and consciously keep the breathing on.

Eyes and attention: Close the eyes, practice differential relaxation. Feel the pressure on the abdominal region and finally keep the mind on the breathing that is do *pranadharana*.¹³

DURATION OF PRACTICE: - In the beginning, practice 3 to 5 rounds of 3 to 10 breaths each. After good practice, maintain this *asana* for one round of 1 to 5 minutes (approximately 15 to 75 breaths.)¹⁴

LIMITATIONS: - While the benefits and importance of *Paschimottanasana* are immense, there are certain circumstances when practitioner should avoid this pose. People with acute abdominal pain, lumbago, hernia, hydrocele, heart ailments, back problems as like back pain and other and spondylosis should avoid this posture.¹⁵ People who have difficulty bending their backs should exercise caution when performing this *asana*.¹⁶

Avoid practicing this *asana* if patient suffer from asthma or any respiratory problem or if patient have recently had any type of abdominal surgery. Practitioner would also have to skip this if they are pregnant or if they have diarrhea. If practitioner has any spinal problem, make sure that they perform *Paschimottanasana* under the supervision of a yoga instructor.¹⁷ People who suffer from slipped disc should not practice this *asana*.¹⁸

EFFECTS: This *paschimottanasana* carries the air from the front to the back part of the body means to *sushumna*. It kindles gastric fire, reduces obesity and cures all diseases of men.¹⁹ Helps to regulate blood pressure and improve circulation. Relieves stress and reduces anxiety and fatigue.²⁰

This *asana* tones the abdominal organs and keeps them free from sluggishness. It also tones the kidneys, rejuvenates the whole spine and improves the digestion. The spines of animals are horizontal and their hearts are below the spine. This keeps them healthy and gives them great power of endurance. In humans the spine is vertical and the heart is not lower than the spine, so that they soon feel the effects of exertion and are also susceptible to the heart diseases. In *paschimottanasana* the spine is kept straight and horizontal and the heart is at a lower level than the spine. A good stay in this pose massages the heart, the spine column and the abdominal and pelvic organs, which feel refreshed and the mind is rested. Due to the extra stretch given to the pelvic region more oxygenated blood is brought there and the gonad glands absorb the required nutrition from the blood. This increases vitality, helps to cure impotency and leads to control sex control. Hence, this *asana* was called *Brahmacharyasana*. *Brahmacharya* means celibacy and a *brahmachari* is one who has control the sex appetite.²¹

In *paschimottanasana*, the muscles of whole of the back, hips and spinal column get stretch. Because of this, the muscles in these regions become flexible specially the muscles at the back of the knees (hamstring muscles) and those of the waist. Due to the stretch along the spinal column, minor defects of the spine are eliminated. The blood circulation in this region improves and consequently, the connecting muscles of the spine get a good supply of blood. This results in better functioning of the nerve fibers coming out of the vertebrae. Tones the shoulders. Owing to the positive pressure

exerted on the abdominal region, particularly the lower one, the fat deposited there is trimmed. Unnecessary blood accumulation in this area is eliminated. Seminal weakness in young men and menstrual disorders like excessive menstruation in young women are corrected by the practice of this *asana*. Daily and extended practice of this *asana* helps boys and girls with stunted growth to increase their height. Gastric trouble, constipation, inflammation in the abdomen and general disorders of the stomach, intestines, liver and kidneys are prevented by the daily practice of this *asana*. Lumbago, *sciatica* and other painful conditions of the waist region are corrected by proper and daily practice of this *asana*. It eliminates the disorders arising from excessive indulgence in sex and helping one to lead a contented and happy married life. However constipation may occur if this *asana* is maintained for long, say for more than 5 minutes. To avoid this problem, practitioner should perform *Uddiyanabandha* (raise the diaphragm) and *ashwinimudra* (anal contraction) intermittently while practicing this *asana*.²²

The *nadi's* are purified by the effect of this *asana* and helps to activate the *kundalini Shakti* which will help in getting *moksha* that is the final aim of *yoga*. This *asana* encourages introversion. This *asana* have soothing for the mind hence removing anxiety, anger and irritability also encourages surrender, letting go and acceptance. This *asana* can be advice for therapeutic applications in diabetes, bronchitis, and colitis. In Women this *asana* is useful for balancing the menstrual cycle

by improving blood circulation and *prana* to the pelvic region. So helps to remove pelvic congestion and also relieves period pain. It calms the emotions.²³

DISCUSSION

Probable following mistakes are there. Making the forehead touch the knees by jerky movements of the upper portion of the body or by using force. Taking advantage of the grip of the toes or legs or by contracting the abdominal muscle. Correction can be done in such tendencies: should be consciously avoided. Instead of using force for reaching the ideal final stage of the *asana*, it is advisable to make a thorough practice of the preparatory practices.

Bending the legs at the knees will defeat the purpose of this posture. Hence, bending of knees at any stage should be avoided. In the final stage of *paschimottanasana*, certain parts of the body experience a stretch or pull beyond their flexibility. The stretch or pull is more at the back of the knees (hamstring muscles) and in the waist region. Assume a body position in which a stretch or pull is tolerable and pleasurable. One should not assume an unpleasurable and strained posture by force. Achieving the final stage of *paschimottanasana* depends on many factors such as age, rigidity of the body, fatty deposits in the abdominal region, and the relative lengths of the upper and lower parts of the body. Persons whose legs are longer in relation to the upper portion of the body will find it difficult to attain the ideal posture of *paschimottanasana*. Such a person should perform the *asana* by relaxing the upper portion of the body and consider whatever comfortable and pleasurable posture they achieve (without

bending the knees) as the final stage for them, no matter whether the head comes near the knees or not. In *paschimottanasana*, stretch and pull are created on the back side but the front side is inactive. It merely reacts to the posterior stretch and pull. The opposite takes place in *suptavajrasana* there is a stretch and pull on the anterior side while the inactive back side merely reacts. Thus these two poses are mutually complementary. Hence they should be practiced one after the other. There by the benefits and pleasure of both can be maximized. In *paschimottanasana*, muscle stretch is felt at the waist, the neck, the back and the back side of knees while in *suptavajrasana* muscle stretch is experienced along the abdomen, the chest, the thighs, the ankles and the front side of the knee joints, etc. These two poses together give an optimum tone and elasticity to the muscles of both sides. Hence the pair is strongly recommended for inclusion in *yoga* program.

CONCLUSION

The science behind the *asana* is not hypothetical since time immemorial there had been numerous *yogis* who achieved perfection through its practice. Nowadays there are a large number of populations suffering from life style disorders like obesity; diabetes mellitus and having faulty dietary habits are creating many digestive disorders. So for them the most excellent of all *asana* is *paschimottana*. This *asana* makes the breath flow through the *sushumna*, stimulate the gastric fire, makes the loins lean and remove all the diseases of man. The continuous and through practice automatically gives easiness and stability.

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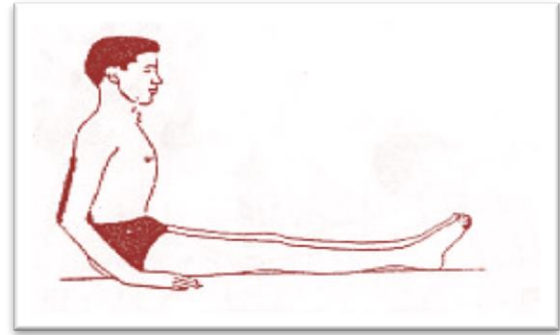


Figure 1



Figure 2



Figure 3

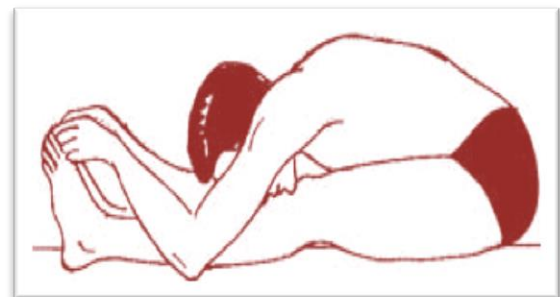


Figure 4