

Review on Anatomical Explanation of *Paschimottanasna* with its Applied Aspect

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ABSTRACT

The system of *Yoga* advocated by *Patanjali* consists of *Astang yoga*, it includes scientific explanation of different body posture called as *Asanas*. Description of *Asana* was found in oldest textbook of *Yoga* (*Shiva Samhita*). *Asana* gives firmness and weightlessness to the body. *Asanas* are not merely athletic exercises, but they are postures, which produce mental and physical equilibrium. *Asanas* have been developed over the centuries as a way to exercise every muscle, nerve, and gland in the body. They provide a great physique, strong and elastic, without stiff muscles, and protect the body from disease. With the word *Pashchimottanasana*; *Paschima* literally means west. This asana gets its name because it greatly lengthens the back of the entire body provides flexibility to the spine, stimulates the spinal nerves and back muscles. It improves digestion, energizes the whole body, and relieves constipation too.

Key Words *Paschimottanasana, Hamstring, Asana, Muscles*

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INTRODUCTION

Hatha Yoga has become highly popular in western countries as a method, which deal with stress, exercise and fitness training¹. The school of *Hatha Yoga* places great importance on perfect body shape as a way to achieve spiritual perfection, which requires the help of pranayama (breath control exercises) and mudra (hand gestures) to achieve self-actualization. Hence, the heart of *Hatha Yog* is the harmony of the positive (sun) and negative (moon) air currents. Over the past decade, *hatha yoga* practice has improved

muscle strength and flexibility and improved overall athletic performance by regulating physiological variables such as blood pressure, respiration, heart rate, and metabolic rate capacity². There is a surprising lack of research on this particular discipline³. *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. “*Paschima*” literally means the west or ‘back of the

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body' and 'Uttana' means 'intense stretch'. This Asana is also known as *Ugrasana*⁴. It also helps to control sexual feelings and due to these benefits of *Paschimottanasana*, it is also known as *Brahmacharyasana*. The word 'Ugra' means 'powerful' and 'Brahmacharya' means 'celibacy'. *Paschimottanasana* describes in *Hathyoga pradeepika*, *Gheranda Samhita* and also in *Shiva Samhita*. It implies the back of the whole body from the head to the heels⁵. In this Asana the back of the whole body is intensely stretched hence the name is given.

AIMS AND OBJECTIVES

1. To know the benefits and anatomical structure involved while practicing *Paschimottanasana* in daily life.
2. To prevent injury while practicing *Paschimottanasana* in daily life

MATERIALS AND METHODS

- Classical text book of *Yogasana* and their commentaries.
- Related articles, publications and internet media information on *Paschimottanasana*.

STEPS OF PERFORMING PASCHIMOTTANASANA^{6,7,8}

प्रसार्य पादौ भुवि दण्ड-रूपौदोर्भ्यां पदाग्र-
दवितयं गृहीत्वा ।

जानूपरिन्यस्त-ललाट-देशो

वसेदिदं पश्चिमतानमाहः ॥ ह.यो..1/28 ॥

इति पश्चिमतानमासनाग्र्यं पवनं पश्चिम-
वाहिनं करोति ।

उदयं जठरानलस्य कुर्याद उदरे काशर्यमरोगतां छ पुंसा
म ॥ 29 ॥

प्रसार्य पादौ भुवि दण्ड-रूपौ विन्यस्तभलं
चित्तियुग्ममध्ये ।

यत्नेनपादौचधृतौकराभयं तत् पश्चिमोत्तनमिहसनम्
स्यात् ॥ (घे.स.2/22)

METHODS

1. Sit straight with the legs extended to the front.
2. Hold the great toes of foot with respective hands.
3. With exhalation bend forwards & touch the head to the knee joint.
4. The elbows should touch the ground.
5. Be in this position for 30 to 60 seconds
6. Release the hands & with exhalation come back to the earlier posture.

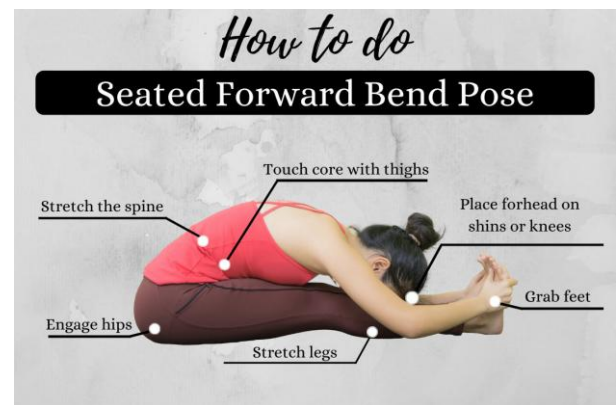


Figure 1 Steps of Performing *Paschimottanasana*⁹ BENEFITS¹⁰:

- Beneficial in defects of *Pranvayu*.
- Enhances digestive power.
- Reduces the abdominal fat.
- Provides health.

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- Tones up the abdominal organs like kidney, liver, spleen etc.
- Strengthens the spine.
- It is considered to be the best in the disease of abdomen
- It also helps in menorrhagia, dysmenorrhea in female
- It also increase the flexibility of elbow and hip joints
- It toneup the abdominal and spine muscles.
- Relieves stress and fatigue
- Improves digestion
- Strengthens the spine
- Use full in the sciatica
- Firms and tones the buttock and spine muscles

Breathing method:-

1. Breathing in (while पूरक) the hands above the lateral side.
2. While bending forward from the waist – रेचक and holding only कुम्भक
3. Then while breathing in, one should come to *Dandasana*.

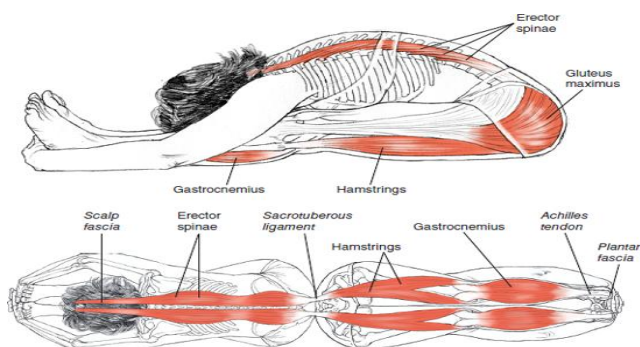


Figure 2 Muscles involvements in *Paschimottanasana*¹¹

DURATION OF PRACTICE¹²:

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.)

Utility of *Asanas* can be taken as two folds:

1. Spiritually, it helps in controlling the mind & to attain salvation.
2. Preservation of health & cure of various diseases.

Places:

Clean, open and secluded place where the air is coming well, the lights should come properly considered to be the best.

Time: Retirement from toilet daily routine, morning is the best time. The time of evening is appropriate in winter. Morning is appropriate in the summer.

Costumes: Wear a cloth covering the entire body in winter. Wear cotton - clothes during warm times.

LIMITATIONS^{13,14,15,16}:

While the benefits and importance of *Paschimottanasana* are enormous, there are certain situations in which meditators should avoid this posture. People with Acute abdominal pain, back

pain, hernia, hydrocephalus, heart disease, back pain such as back pain and spondylosis should be avoided. People who have difficulty bending their backs should be careful when performing this *Asana*.

Avoid practicing this asana if patient suffer from asthma or any respiratory problem or if patient have recently had any type of abdominal surgery.

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Practitioner should also skip this procedure if you are pregnant or have diarrhea. If the yogi has back problems, he should perform *Paschimotanasana* under the supervision of a yoga instructor. People suffering from herniated discs should not perform this *Asana*.

ANATOMY OF *PASCHIMOTTANASANA*¹⁷:

Focus on extending the spine towards head with each inhalation, and try to bend down with each exhalation.

Joint Actions:

Spinal flexion (moving towards extension); sacrum nutation; hip flexion, adduction, internal rotation; knee extension; ankle slight dorsiflexion; scapula abduction, upward rotation; glenohumoral joint flexion, slight external rotation, adduction; elbow extension; forearm slight pronation.

Working

Gravity acts to pull the torso towards the top of the thighs.

Spine: Extensors can act to deepen action in the hip joints.

Legs: *Vastii* and *articularis genus* to extend knees.

Lengthening

Spine: Spinal extensors (if releasing into pose), *latissimus dorsi*.

Legs: *Hamstrings*, *gluteus maximus*, *piriformis*, *obturator internus* and *gemelli*, *gluteus medius* and *minimus*, *gastrocnemius* and *soleus*; *popliteus* works at length (eccentrically) to prevent hyperextension of the knees.

Arms: *Rhomboids*, *lower trapezius*, *latissimus dorsi*.

DISCUSSION

The formation of lumbosacral angle is related to the progressive acquisition of erect posture and the ontogeny of bipedal locomotion.

The impact of increasing joint activity and paraspinal muscle activity helps in stature recovery

The pain, stiffness and decrease in the range of movement at the lumbosacral spine is due to structural changes in the L5-S1 joint. The pathology is due to the compression of nerve roots of sacral plexus.

Any postural changes to compensate the stress and strain in the lumbosacral joints results in the changes in the lumbar curvature which results in an increased lumbosacral angle.

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 thigh (*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

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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*. 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.

CONCLUSION

First stage in *Hath yoga* is *Asana*. The aim of *Asanas* is to strengthen the body, clearing the impurities of *Nadis* and to make the body fit for sitting comfortably in meditation for long hours. The science behind the *Asana* is not hypothetical since time immemorial there had been numerous yogis who achieved perfection through its practice. 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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