

Anatomical Explanation of “Mayurasana”

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ABSTRACT

The word *Yoga* comes from the Sanskrit word *Yuj* meaning to yoke, join or unite. It implies joining or integrating all aspects of the individual body with mind, and mind with soul to achieve a balanced and healthy life. *Yoga* is performed through some specific postures called *Asana*. Among the eight limbs of *Yoga*, the yogic technique properly begins at the third limb that is the *Asana*. *Asana* means a state in which one can remain physically and mentally steady, calm, quiet and comfortable. Patanjali defines *Asana* as ‘*Sthirasukhatvam*’ in *Yogasutra* which can be translated as Stable and pleasurable state of body is called *Asana*. “*Mayurasana*” was described as one of the 32 most important *Asana* in *Gheranda Samhita*. The name “*Mayurasana*” comes from Sanskrit words “*Mayura*” meaning peacock and *Asana* meaning posture. Hence the posture in which the body of the practitioner is shaped like a peacock is called *Mayurasana*. In this article anatomical structures involved in the “*Mayurasana*” and how this involvement is beneficial in maintaining the health or in management of any disease is explained.

KEYWORDS: *Yoga, Asana, Anatomy, Joint, Muscle, Mayurasana*

INTRODUCTION

“*Mayurasana*” was described as one of the 32 important *Asana* in *Gheranda Samhita* (dated 1650 CE). The *Gheranda Samhita* is the most encyclopaedic of the three-classic text about *Asana*. It says that there are 8,400,000 of *Asana* described by *Shiva*. The postures are many in number as there are number of species of living creatures in this universe, among them 84 are the best and among these 84, 32 have been found useful for mankind in this world these 32 *Asana* are mentioned in *Gheranda Samhita*.¹

The “*Mayurasana*” word comes from the Sanskrit word “*Mayura*” meaning Peacock and *Asana* means Posture. Hence, a posture in which the body of practitioner is shaped like peacock is called “*Mayurasana*”.²

Purpose of this study- In this article the essential quest of *Asana* practitioner about the anatomical structures involved in the *Asana* and how this involvement is beneficial in maintaining health or in management of any disease and the knowledge of anatomy will also help the *Asana* practitioners, to avoid injuries.

Aim and Objectives -

- To explore the anatomical structures involved in “*Mayurasana*.”
- To avoid possibilities of injuries while performing *Mayurasana* by understanding the anatomical structures involved in “*Mayurasana*”.

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Material and Methods -

- Texts related to *Yoga-Asana* and their commentaries.
- Other print media, online information, journals, magazines etc.

Review-

According to *Gheranda Samhita*-

धरामवष्टभ्य करद्वयेन तत्कूर्पर स्थापितनाभिपार्श्वः।

उच्चासनो दण्डवदुत्थितःखे मायुरमेतत्प्रवदन्तिपीठम्॥ (घेरंड संहिता २/२९)

practitioner places the palms of the two hands on the ground, the umbilical region on the two elbows and stands upon the hands, the legs being raised in the air and crossed like *Padmasana*. This is called the *Mayurasana* (peacock posture).

According to *Hathyogapradipika*-

धरामवष्टभ्य करद्वयेन तत्कूर्पर स्थापितनाभिपार्श्वः।

उच्चासनो दण्डवदुत्थितःखे मायुरमेतत्प्रवदन्तिपीठम्॥ (हठयोगप्रदीपिका १/३२)

opines that one places the palms of both the hands on the ground and places the navel on both the elbows and balancing the body. The body should be stretched backwards like a stick.

According to *Vashishta Samhita*-

अवष्टभ्य धरां सम्यक् तलाभ्यां च करद्वयं।
हस्तयोः खर्परे चापि स्थापयेन्नाभिपार्श्वयोः॥
समुन्नतशिरःपादो दण्डवत् व्योमनि संस्थितः।
मयुरासनमेतद्धि सर्वपापविनाशनम्॥ (वशिष्ठ संहिता
१/७६.७७)

Vashishta Samhita states that during *Mayurasana*, practitioner should hold the ground with the palms and elbows lie on sides of the navel raising the head and legs and poising oneself in the space like a stick (horizontally).

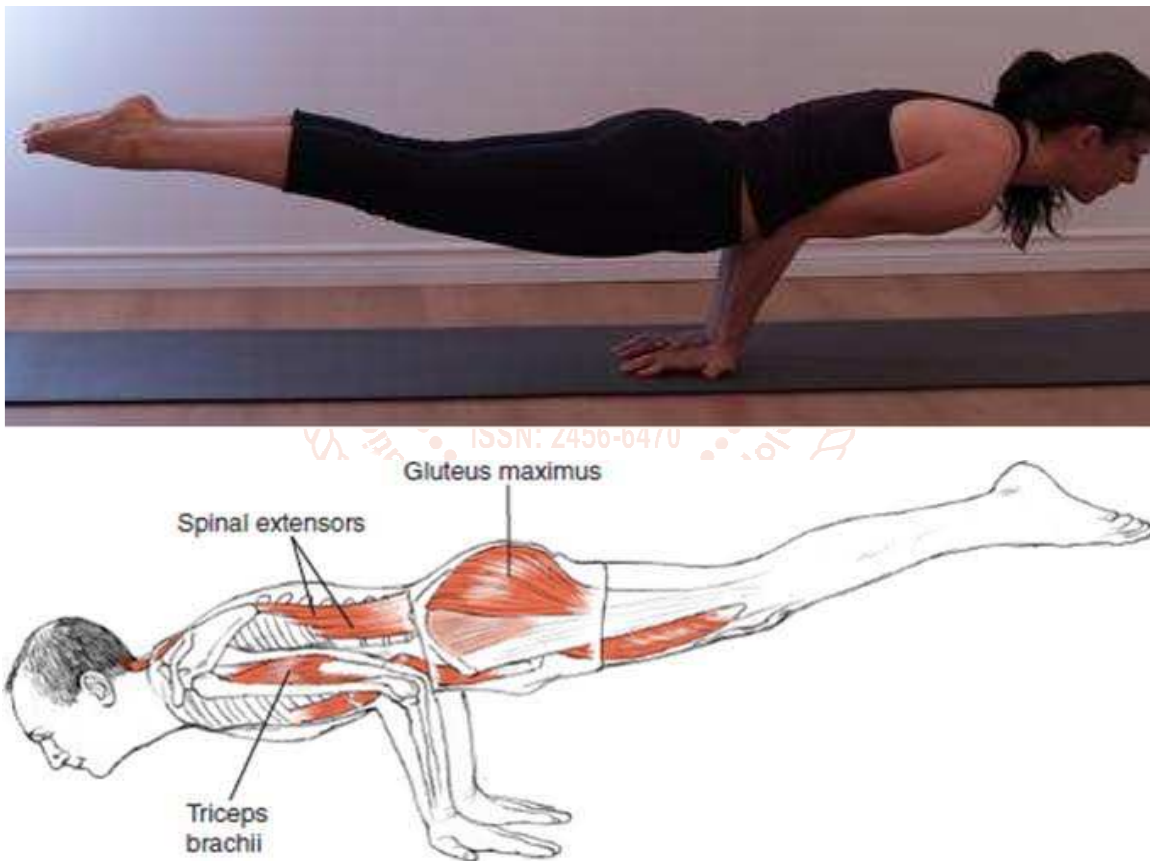
Steps for performing *Mayurasana*³-

- Kneel on the floor.
- Place the feet together and separate the knees.
- Lean forward and place both palms between the knees on the floor with the fingers pointing towards the feet.

The hand position will have to be adjusted according to comfort and flexibility.

- Bring the elbows and forearms together.
- Lean further forward and rest the abdomen on the elbows and the chest on the upper arms.
- Stretch the legs backwards so they are straight and together.
- Tense the muscles of the body and slowly elevate the trunk and legs so that they are horizontal to the floor.
- Hold the head upward.
- The whole body should now be balanced only on the palms of the hands.
- Try to elevate the legs and feet higher, keeping them straight by applying more muscular effort and by adjusting the balance of the body.
- Do not strain.
- In the final position, the weight of the body should be supported by the muscles of the abdomen and not the chest.
- Maintain the pose for a short period of time, and then slowly return to the base position.

Image-



Anatomical exploration of "*Mayurasana*"-

Joint actions⁴-

- Cervical extension of the spine
- Hip extension, adduction, internal rotation
- Knee extension
- Ankle plantarflexion
- Shoulder joint external rotation, flexion, adduction and Scapula downward rotation and abduction.
- Elbow flexion and Forearm supination.
- Wrist dorsiflexion

Muscles involved in "*Mayurasana*"-

Spine: The group of muscles causing cervical extension are splenius capitis, splenius cervicis, the transvers spinalis

group of muscles (multifidus, semispinalis and rotators) and the erector spinae group (iliocostalis, longissimus and spinalis). main antagonist muscles in action are the muscles that cause cervical flexion; namely sternocleidomastoid, longus capitis, longus colli and rectus capitis anterior. The muscles causing thoracic flexion are rectus abdominis, external oblique and internal oblique. The muscles opposing the action i.e. acting as antagonist for this action are the thoracic extensors which are the 3 erector spinae group of muscles (i.e. iliocostalis thoracis, longissimus, spinalis) and transvers spinalis group (multifidus, rotators and semispinalis). Lumbar extension is caused by 3 erector spinae group of muscles i.e. iliocostalis lumborum, longissimus and transvers spinalis (semispinalis, multifidus,

rotators) and quadratus lumborum. The muscles acting as antagonist for this joint action are rectus abdominis, external oblique and internal oblique.

Hips: The hip extension is caused by gluteus maximus which is the prime mover. The other joint action that a gluteus maximus cause is hip external rotation. To limit this action internal rotators come to play which are neutralizers for this joint action. The main neutralizers for hip extension are adductors and medial rotators which form the medial compartment of the thigh except the obturator externus which is the abductor of the thigh at the hip joint. The other hip extensors are long head of biceps femoris, semitendinosus, semimembranosus and posterior adductor magnus. Adduction is performed by the adductors of the hip joint which are pectineus, three groups of adductors and gracilis. The adductors also internally rotate the hip joint along with tensor fascia latae, gluteus medius (anterior fibers) and some anterior fibers of gluteus minimus. Here the stabilizers for the hip joint are the deep rotators of the hip. The core needs to be fixed for a powerful hip extension. The main fixators are the core muscles. These are transverse abdominis, multifidus, diaphragm, pelvic floor, internal and external oblique, rectus abdominis, erector spinae and quadratus lumborum. The main antagonists are the hip flexors like iliopsoas, tensor fascia latae and rectus femoris, the lateral or external rotators of the thigh at the hip joint like obturator externus, piriformis, obturator internus, quadratus femoris and superior and inferior gemelli. Adduction is antagonized by the abductors TFL and some fibers of gluteus minimus and medius.

Knee: Knee extension is performed by quadriceps i.e. rectus femoris, vastus medialis, vastus intermedius and vastus lateralis. Antagonists for extension are the three hamstrings which are biceps femoris, semitendinosus and semimembranosus.

Ankle and Planter region: Ankle plantar flexion is performed by group of muscles in the posterior compartment of leg and the extrinsic and intrinsic muscles of the toe joint. Gastrocnemius, soleus, tibialis posterior, plantaris, fibularis longus and brevis. The extrinsic muscles of the toe joint which assist plantar flexion are flexor hallucis longus, and flexor digitorum longus. The intrinsic flexors of toe joints are flexor digitorum brevis, flexor hallucis brevis, quadratus plantae, lumbricals pedis and flexor digiti minimi pedis. The toes are adducted in this *Asana*. The adductors of the toes at MTP joints are adductor hallucis, plantar interossei and dorsal interossei pedis. The antagonists to this action are tibialis anterior, extensor hallucis longus, extensor digitorum longus, extensor digitorum brevis and peroneus tertius and the abductors of the toes.

Scapula: Scapular protraction and abduction is performed mainly by serratus anterior, pectoralis major and minor synergize its action. Rhomboidus and upper and mid trapezius act as antagonists. Spine and trunk have to be fixed for proper movement of scapula. Hence the core muscles act as fixators. These are transverse abdominis, multifidus, diaphragm, pelvic floor, rectus abdominis, internal and external oblique, erector spinae and quadratus lumborum.

Arms: External rotation of arm at the shoulder joint is caused by posterior deltoid, supraspinatus, teres minor and

infraspinatus. The muscles acting as antagonists for this action are teres major, anterior deltoid, latissimus dorsi, subscapularis and pectoralis major. Shoulder flexion is performed by anterior deltoid, pectoralis major and coracobrachialis. The antagonists are latissimus dorsi, teres major and minor, and posterior deltoid. Adduction of the shoulder joint is performed by teres major, pectoralis major, latissimus dorsi and coracobrachialis which is antagonized by deltoid and supraspinatus. For all the movements occurring at shoulder joint the rotator cuff group acts as joint stabilizers.

Elbow flexion is performed by brachialis, biceps brachii and the brachioradialis. The action is opposed by extensors of the elbow i.e. triceps brachii and anconeus.

Supination of the forearm is caused by mainly by the supinator muscle and is assisted by biceps which supinates the forearm when it flexes. The action is antagonized by pronator teres and pronator quadratus.

Ligaments involved in "Mayurasana"-

- At the hip joint hip extension is limited by iliofemoral ligament, which passes over the front of hip joint and connects the ilium to the femur. This ligament elongates when pelvis is tilted backwards. This ligament also limits external rotation of the hip joint.
- The posterior longitudinal ligament stretches during the flexion of the spine along with supra spinal ligament, interspinal ligament and ligamentum flavum.

Benefits of "Mayurasana"-

Mayurasana destroys all diseases, and removes abdominal disorders, and also those arising from irregularities of phlegm, bile and wind, digests unwholesome food taken in excess, increases appetite and destroys the deadliest poison.⁵

The Peacock posture destroys the effects of unwholesome food, it produces heat in the stomach, it destroys the effects of deadly poisons, it easily cures diseases, like Gulma and fever.⁶

Discussion- Looking into the physiological benefits of *Mayurasana*, the classical texts of *Yoga* have mainly focused on the detoxification actions of this *Asana*. The comparison is done with the poison being digested by a peacock. The lifestyle we live today promotes the toxins accumulation in our body and hamper their normal secretion through the body. Toxin build-up is one of the major causes of many conditions like cancer, liver disease, obesity etc. Detoxification takes place naturally in the body through the lungs, the digestive system, the kidneys, skin and the liver. The lungs remove gases and volatile chemicals when we exhale. *Mayurasana* increases the motility and mobility of the organs to enhance their normal detoxifying functions. In *Mayurasana* one experiences considerable amount of pressure on abdominal organs as the elbows put a direct pressure on the abdomen. It squeezes out stagnant blood and replaces it with fresh oxygenated blood as soon as we release the pressure. Proper circulation will have a direct and positive effect on the nervous system.

Mayurasana involves movement and has a massaging effect on the abdominal area can relieve constipation. The positive

effect of *Mayurasana* on GIT can be mainly explained on the basis of parasympathetic activation via vagus nerve which mainly activates the “rest and digest” state of the body. Vagal nerve stimulation has been a therapy to treat many anxieties and stress related conditions. The activation of vagus nerve has effects on all the visceral organs of the body. The digestion is improved as the digestive secretions are well secreted. The liver works properly and the detoxification action of this *Asana* can also be explained via vagus nerve stimulation. The bile is secreted properly due to its action on gall bladder. The peristaltic activity of the intestines is increased by the activity of the same. The activity on the pancreas increases the production of insulin.

Conclusion- In *Mayurasana* the body is balanced on the arms and the elbows act as fulcrum. The pressure of the elbows on the diaphragm may stimulate the vagus nerve which may help one to explain the positive effects of this asana on GIT as well as calming effect on the brain. In *Mayurasana* maximum stress present at the wrist joint so Radioulnate ligament, radioscapocapitate ligament, palmoulnocapal ligament can tear if *Mayurasana* performed in incorrect manner.

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- [6] बहु कदशनभुक्तं भस्म कुर्याद्दशेषं जनयति जठराग्निं जारयेत्कालकूटनं॥ हरति सकल रोगानाशु गुल्मज्वरादीन्भवति विगतदोषमासनं॥ (घेरंड संहिता २/३०)

