

**A REVIEW ARTICLE ON ANATOMICAL ASPECT OF PERINEUM AND THE EFFECT OF YOGASANAS AND EXERCISES ON IT.****Manisha Kishanrao Dawre<sup>1</sup>, Divya Deepak Varma<sup>2\*</sup> and Snehal Shivaji Jadhav<sup>3</sup>**<sup>1</sup>M.D. Associate Professor Department of Rachana Sharir, Govt. Ayurved College Osmanabad, Maharashtra.<sup>2</sup>PG Scholar, Department of Rachana Sharir, Govt. Ayurved College Osmanabad, Maharashtra.<sup>3</sup>PG Scholar, Department of Rachana Sharir, Govt. Ayurved College Osmanabad, Maharashtra.**\*Corresponding Author: Divya Deepak Varma**

PG Scholar, Department of Rachana Sharir, Govt. Ayurved College Osmanabad, Maharashtra.

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**ABSTRACT**

Perineum is an important part of the lesser pelvis that contains the external genitalia. It consists of urogenital triangle and anal triangle. It contains various muscles which help in different functions such as constriction of anus, urethra and vagina, resist an increase in intra-abdominal pressure and also support and maintain the pelvic viscera. The muscles of perineum may get weak due to various reasons such as chronic constipation, pregnancy, child birth, obesity and prostate surgeries. Weak muscles may cause incontinence of urine or stool, leaking of urine on coughing and laughing and can also lead to pelvic organ prolapse. In order to keep the muscles of perineum toned or to regain its lost tonicity various asanas and exercises can be helpful. These *asanas* and exercises help the muscle to regain its tone and function properly.

**KEYWORDS:** Perineum, Yogasanas.**INTRODUCTION**

Perineum is an important region present in the inferior to the pelvic diaphragm and it is a 'diamond shaped' area.<sup>[1]</sup> It has the same skeletal boundaries as the pelvic outlet; anteriorly, the pubic arch and its arcuate ligament; posteriorly the tip of the coccyx and on each side the inferior pubic and ischial tuberosities and sacrotuberous ligament.<sup>[2]</sup> A transverse line in front of ischial tuberosities divides the region into two triangular parts, a posterior anal triangle and an anterior urogenital triangle.

The largest and most important muscle of the pelvic floor is levator ani.<sup>[3]</sup> It supports the pelvic viscera and resists the inferior thrust that accompanies increase in intra-abdominal pressure during functions such as forced exhalation, coughing, vomiting, urination and defecation. The muscle also functions as a sphincter at anorectal junction, urethra and vagina. In addition to assisting the levator ani the ischiococcygeus pulls the coccyx anteriorly after it has been pushed during defecation or child birth.<sup>[4]</sup> The other muscles are superficial transverse perineal, bulbospongiosus, ischiocavernosus and so on.

These muscles are arranged in two layers i.e superficial and deep and support the pelvic organs. The tone of these muscles can be weakened due to many reasons such as pregnancy, child birth, chronic constipation and prostate surgeries. If the muscles are weakened it may cause incontinence of urine and stool, urination on

coughing, sneezing, laughing and running, reduced sensation in vagina and so on. So it is very important to keep the tone of these muscles maintained.

*Yogasanas* such as *Padmasanas*, *Yoga mudra*, *Maha mudra* and various perineal exercises such as Kegels and Squats can surely help to maintain the tone of the muscles and to regain tonicity that is lost due to any of the above reasons. They strengthen weak pelvic floor muscle and also relax the tight ones.

**ANATOMY OF PERINEUM**

The perineum is the region at the lower end of the trunk, in the interval between the two thighs. It is 'diamond shaped'. An imaginary line drawn between the two ischial tuberosities divides it into an anterior urogenital triangle and a posterior anal triangle. The external genitalia are located in the perineum. The perineum forms the lower division of the pelvis that lies below the pelvic diaphragm, formed by the levator ani and coccygeus. Boundaries of the perineum:

**SUPERFICIAL BOUNDARIES<sup>[5]</sup>**

Anteriorly – The scrotum in males and mons pubis in females

Posteriorly – The buttocks

On each side – Upper part of medial side of the thigh

**DEEP BOUNDARIES<sup>[6]</sup>**

Roof – Pelvic diaphragm

Floor – Fascia and skin  
 Anteriorly – Pubic symphysis  
 Posteriorly – Tip of coccyx  
 Laterally – The ischiopubic rami, sacrotuberous ligament  
 Blood supply to the perineum is from the Pudendal nerves (S2 to S4) and Pudendal vessel<sup>[7]</sup>. Lymphatic drainage is to internal iliac nodes, the superficial inguinal and deep inguinal nodes.

### UROGENITAL TRIANGLE

The urogenital triangle is located in the anterior part of the perineum. Its base is formed by an imaginary line connecting the two ischial tuberosities and is bounded by the pubic symphysis anteriorly and the ischiopubic rami on either side.

The urogenital triangle consists of many layers of fascia. From superficial to deep the layers of fascia are:

- 1] Skin - It is the epithelial surface onto which the urethral and the vaginal orifices open crossing the perineal membrane.
- 2] Superficial Perineal fascia – This fascial layer is continuous with the superficial layer of the fascia of the abdominal wall. It consists of two layers – Among which a superficial fatty layer forms the labia majora and mons pubis in females and a deep layer (fascia of Colles)
- 3] Deep Perineal fascia – This layer of fascia encloses the perineal muscles
- 4] Superficial Perineal pouch – Is a space located between the deep perineal fascia and the perineal membrane<sup>[8]</sup>. It contains Bartholin's glands, the erectile tissues of the penis and clitoris, the and the ischiocavernosus, bulbospongiosus and superficial transverse perineal muscles.
- 5] Perineal Membrane – The perineal membrane is a dense fascial layer which covers a major part of the urogenital triangle. It provides support to the pelvic diaphragm superiorly and anchors the external genitalia inferiorly. The perineal membrane allows vagina and urethra to pass through it and open onto surface of the skin.
- 6] Deep Perineal pouch – This is a potential space between the perineal membrane and the pelvic floor<sup>[9]</sup>. The external urethral sphincter, part of the urethra and in male the bulbourethral glands and the deep transverse perineal muscles are present in this pouch.

### PERINEAL BODY

The perineal body is the central point of the perineum and is a fibromuscular node situated in the median plane about 1.25 cm in front of the anal margin and close to the bulb of the penis.<sup>[10]</sup> Ten muscles of the perineum unite in the perineal body.

### Two unpaired

External anal sphincter, Fibres of longitudinal muscle coat of anal canal

### Paired

Bulbospongiosus, Superficial and deep transverse perineal and levator ani. All these muscles unite in the perineal body. Nine are visible. Last one is unstripped fibres of longitudinal muscle coat of the anal canal.

The perineal body is very important in the female for support of the pelvic organs. Sphincter urethrovaginalis is also attached here. It may be damaged during parturition or childbirth. This may result in prolapse of organs such as the urinary bladder, the uterus, the ovaries and even the rectum.

### ANAL TRIANGLE

The anal triangle is present on the posterior part of the perineum and contains the anus. An imaginary line connecting the two ischial tuberosities forms the base of the triangle. The coccyx and the sacrotuberous ligaments form its other boundaries. The triangle consists of - Anus and the anal aperture. Two Ischioanal / Ischiorectal fossae on the either side of the anal canal. The anal aperture is closed and open by external anal sphincter.

### ISCHIOANAL FOSSA OR THE ISCHIORECTAL FOSSA

On either side of anal canal a space is located and called as ischioanal fossa or ischiorectal fossa. It is wedge shaped.<sup>[11]</sup> The apex of this space is situated deep, directed towards the pubic symphysis. The anococcygeal body separates the two fossae.

### BOUNDARIES

BASE – Skin of the perineum

LATERAL WALL – Formed by obturator internus muscle, tuberosity of ischium and the obturator fascia

MEDIAL WALL – Formed by the anal fascia, external anal sphincters and the levator ani muscle

ROOF – Levator ani muscle

APEX – The junction of the obturator internus muscle and levator ani muscle is the apex

### CONTENTS

Pudendal canal: Also called the Alcock's canal. It is a fibrous sheath formed by the obturator fascia. It is located on the lateral wall of the fossa and contains pudendal nerves and internal pudendal vessels. Ischiorectal pad of fat: It supports the anal canal. It also allows it to distend when defecating. Posterior scrotal (in males) or posterior labial (in females) nerves and vessels. Perforating cutaneous nerve. Perineal branch of S4 Lymphatics

**MUSCLES OF PERINEUM AND THEIR ACTIONS<sup>[12]</sup>**

MUSCLE	ACTION
Pubococcygeus Iliococcygeus	1.Supports and maintain position of pelvic viscera 2.Constricts anus , urethra and vagina
Puborectalis	Help to maintain fecal continence and assists in defecation
Ischiococcygeus	1.Supports and maintain position of pelvic viscera 2. Pulls coccyx anteriorly following defecation or childbirth
Superficial transverse perial	Stabilizes perineal body of perineum
Bulbospongiosus	Helps expel urine during urination,helps propel semen along urethra,assists in erection of penis in male, constricts vaginal orifice and assists in erection of clitoris in female
Ischiocavernosus	Maintain erection of penis and clitoris by decreasing urine drainage
Deep transverse perial	Helps expel last drop of urine and semen in male
External urethral sphincter	Helps expel last drop of urine and semen in male and urine in female
Compressor urethrae	Serves as accessory sphincter of urethra
Sphincter urethrovaginalis	Serves as accessory sphincter of urethra and facilitates closing of vagina
External anal sphincter	Keeps anal canal and anus closed

In this way all the muscles of perineum play a very important role in various functions such as physical support to pelvic viscera and help in constrictor mechanism of the anal canal, vagina and urethra. These muscles can become weak or loses its tone due to many causes such as pregnancy, child birth, chronic constipation, ageing and so on. Muscles can function well only if they are strong and toned. So it is important to keep the tone maintained so that the organs are supported well and all the functions are carried smoothly.

Various *yogasanas* and exercises help such to achieve the tonicity of the muscles. They also strengthen the weak muscles and relax the tight once.

**YOGASANAS AND EXERCISES FOR PERINEUM:**

Practise of *yogasanas* have many benefits including balance and flexibility. *Yogasanas* may even help to strengthen your pelvic floor and also help in improving the bladder control. Some of the important *yogasanas* and exercise for perineum are below –

**1. Padmasana:**

This *asana* has a lot of effect on body. It strengthens the pelvic region and also enhances strength and stability of pelvic muscles. If this *asana* is practiced by women during pregnancy without overstrain it can open up hips and can help in painless delivery. It stimulates the sacral nerve plexus.<sup>[13]</sup>

**2. Baddha konasana (Butterfly Pose)**

This *asana* helps to support the untucked position of the pelvis, gives stability to sacrum and engages the pelvic floor muscles. It increases circulation to the pelvic floor organs as well as help in building tones in the layer of pelvis.

**3. Pashchimottasana**

Pelvic floor muscles helps in semen expelation. This *asana* increases tone of muscle and due to this seminal defects are improved.<sup>[14]</sup>

**4. Vajrasana**

It improves the circulation of the pelvic region.<sup>[15]</sup>

**5. Shashankasana**

Pelvic organs like prostate in male and uterus in female are toned up and their circulation is improved.

**6. Shalabhasana**

Pelvic organs are stimulated

**7. Maha Mudra and Yoga Mudra**

Stimulate the sacral nerve plexus. Sacral nerve is an important nerve that controls a person's bladder, pelvic floor and all the muscles related to their function. *Maha mudra* also stimulate anal region and correct the seminal defects.

**8. Mula Bandha**

*Mula* means 'root' and *bandha* means 'to lock' or 'to bind'.<sup>[16]</sup> It is practiced to restrain the breath below the genital region at the anus .By practicing it the perineal muscles are toned up and circulation is improved . Anal sphincter and genitals ate toned up and the sacral plexus is also stimulated.

**9. Kegels exercise**

It gives strength to the muscles of pelvic floor. It can help to prevent physical problem such as incontinence of urine and stool. Relaxes your vaginal muscles which let the vagina open more and helps to decrease pain during sexual intercourse or pelvic exams. Improves blood circulation to pelvic floor.

**10. Squats**

Squats are very popular and effective evercise for building the strength of lower body. Pregnant women can do squats in their weekly exercise. Squating during labor and delivery may help to open your pelvis which would help in assisting baby's descent.

**11. Bridge**

It strengthens the core and the buttock muscles. As a result it also strengthens and supports the pelvic floor.

**12. Split table top**

It also gives strength to the pelvic floor muscles and other core muscles. It is seen that during childbirth the perineum stretches tremendously to allow the baby to come out. Sometimes the stretching results in the perineal tear which is difficult to heal and stitch. So, during pregnancy perineum stretching and regular perineal massage can prevent the tear during childbirth. Perineum stretching can be done during the last weeks of the due date. It will help to relax the floor muscles and help the opening of the vagina for the ease of the delivery.

**CONCLUSION**

The perineum is separated from the pelvic cavity by the pelvic floor. It contains various important structures that support the urogenital and anal triangle. It plays an important role in various important functions such as micturition, defecation, sexual intercourse and childbirth. The muscles of the perineum can become weakened due to ageing and many other causes such as chronic constipation, childbirth and so on. If muscles become weak, it may cause various effects and so to avoid these various *yogasanas* and exercises have been described. *Asanas* and exercises help to maintain the tone of muscles and also relax the tight muscles. Due to this the perineum will be healthy and will function properly. Perineal massage also helps in easy childbirth by opening the vaginal opening and reduces the risk of tear during delivery.

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