

# Pelvic floor muscles, ischioanal fossa, perineal region

The pelvic floor is made up of fibrous-muscular structures (*diaphragm pelvis* and *diaphragma urogenitale*). They attach to the bony base of the small pelvis, thereby **closing the pelvic outlet** and thus providing the necessary **support for the pelvic organs**.

Both membranes meet in the area of the **centrum perineale**, which is a key point for ensuring the integrity of the pelvic floor. Although these are structures with different functions and innervation, their mutual cooperation is necessary for the proper function of the sphincters (**ensuring continence**) and **allowing the passage of the fetus** through the birth canal (extreme dilation of the birth canal by relaxing the muscles of the pelvic floor).

## Diaphragma pelvis

A flat funnel-shaped membrane that extends from the walls of the pelvis and attaches to the *hiatus analis*, where the anus passes.

It consists of the **levator ani muscle and the coccygeus muscle**. It extends **from the walls of the small pelvis to the hiatus analis**. Slot, between both mm. the levator ani form a passage called the *hiatus urogenitalis*, through which the urethra and (in women, together with the vagina) pass. Cranially, the muscles of the pelvic membrane are covered by the fascia diaphragmatis pelvis superior (a continuation of *f. pelvis parietalis*), caudally by the fascia *diaphragmatis pelvis inferior*.

Main function *pelvic diaphragm* is **to support pelvic organs**. All muscles of the pelvic diaphragm are innervated by direct branches from the **sacral plexus (S3-S4)**.<ref name="Čihák">

**Fossa ischioanalis** (*ischiorectalis*) is the topographic location of the pelvis lateral to the rectum, which is bounded by:

- cranially/medially: *m. levator ani* with fascia diaphragmatis pelvis inferior
- laterally: *m. obturatorius internus* with its fascia
- caudally: *fascia perinei*
- dorsally: lower edge *m. gluteus maximus* with its fascia and *lig. sacrotuberale*

So it reaches from the pubic bone to the gluteal muscle. The contents of the *fossa ischioanalis* is the *corpus adiposum fossae ischioanalis*, structures passing through the *canalis pudendalis* (Alcocki) – *nervus pudendus* and *vasa pudenda*, it is extended ventrally to the *symphysis pubica* as a *recessus pubicus*.

## M. levator ani

A paired muscle that forms the **ventrolateral part of the pelvis diaphragm**. It consists of the pubococcygeus muscle (*pars pubica*), the iliococcygeus muscle (*pars iliaca*) and the *puborectalis* muscle.

### M. pubococcygeus

It forms the **ventral part** of the pelvic floor. It begins in the common beginning at the pubic axis, (1 cm from the symphysis)<sup>[1]</sup> and in the course it divides into (*m. pubovaginalis*, *m. puboperinealis* and *m. puboanalis*). The muscle bundles cross each other during the course, forming a loop that forms an **active support** of the pelvic organs.

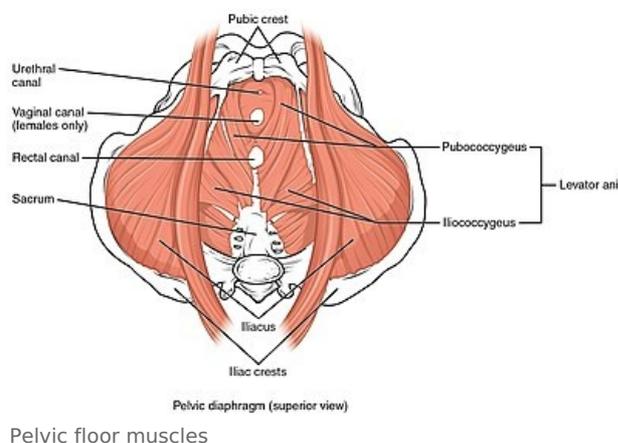
The bundles are subsequently attached to various structures (reciprocal muscle, *hiatus urogenitalis*, *lig. anococcygeum*, up to the coccyx).

### M. iliococcygeus

It forms the **lateral part** of the pelvic floor. It starts as a fibrous band on the arcus tendineus of the levatoris ani muscle and attaches to the *lig. anococcygeum* and coccyx margins.

### M. puborectalis

It forms the **lower border** of the pelvic floor. It departs from the dorsal surface of the os pubis, runs laterally from the pubococcygeus muscle to the area of the anorectal junction, where it attaches to the bundles of the bilateral muscle. The attachment of the muscles creates a cuff surrounding the rectum, which pushes it ventrally and regulates **stool continence** by changing the contraction (relaxation of the muscle leads to defecation). At the same time, it affects the pelvic tilt and thus determines the value of the **anorectal angle**.



## M. coccygeus

It forms the back part of the pelvic floor. It begins at the spina ischiadica and attaches to the area of the sacrococcygeal junction.

## Urogenital Diaphragm

The fibrous part extends in the shape of a triangle, between the **tubera ischiadica** and the **symphysis**. It closes the hiatus urogenitalis through which the urethra passes (in women and the vagina) and in the area of the center of the perineum it connects with the diaphragma pelvis. Axial bodies and glands insist on the lower side.

**In men**, the muscular part consists of the **transversus perinei profundus muscle** and the variable transversus perinei superficialis muscle. **In women**, it is formed by the muscles of the **sphincter urethrovaginalis** and the **compressor urethrae**.

## Superficial muscles of the perineum

They attach to the external genitalia and form the **base of the perineum**. They create two formations, according to which we divide them into the muscles of the urogenital and anal triangle.

**The anal triangle** consists of the **sphincter ani externus muscle**, the fibrous membrane and the **lig. anococcygeum**, which attaches the anal region of the rectum to the coccyx.

### The muscles of the urogenital triangle

- *m. sphincter urethrae externus*;
- *m. ischiocavernosus* (**in men** connected to the **crus penis**, participates in erection and ejaculation, **in female** connected to *crus clitoridis*);
- *m. bulbospongiosus* (**in men** the conclusion of micturition and ejaculation, **in female** contraction of the vestibule of the vagina, compression of the vestibular glands and erection of the clitoris).

## Perineal region

*Perineum* in latin. It is a strong muscle region between the anus and the sexual organ (entrance to the vagina in women; scrotum in men). In women, this region is strained during delivery. Sometimes it has to be surgically cut (**episiotomy**).

## Links

### Related articles

- Pelvic and genitourinary floor muscles (table)
- Man
- Episiotomy
- Woman
- Pelvic floor muscles
- Ischioanal region

### References

## Literature

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## Reference

1. **Cite error: Invalid <ref> tag; no text was provided for refs named Čihák**

