Pelvic Cavity

Pelvic Contents of Female
Superior View

Pelvic Contents of Male
Superior View
Axis of pelvic Cavity
Pelvic Outlet
Pelvic Outlet
Perineum and Urogenital Diaphragm of Female
Deep Dissection

- Crus of clitoris
- Urethra
- Superior fascia of urogenital diaphragm
- Sphincter urethrae muscle
- Ischiopubic ramus
- Vestibular bulb
- Inferior fascia of urogenital diaphragm (cut and reflected)
- Deep transverse perineal muscle
- Greater vestibular (Bartholin’s) gland
- Vagina
- Inferior fascia of urogenital diaphragm
Perineum of Male
Regions [Triangles] and Surface Topography

- Pubic symphysis
- Urogenital triangle
- Ischiopubic ramus
- Ischial tuberosity
- Anal triangle
- Tip of coccyx
Perineum and External Genitalia of Male
Deep Dissection

- Superficial (dartos) fascia of penis
- Deep (Buck’s) fascia of penis
- Fascia over external abdominal oblique muscle
- Bulbospongiosus muscle
- Ischiocavernosus muscle covers crus of penis
- Inferior fascia of urogenital diaphragm
- Superficial transverse perineal muscle
- Levator ani muscle in ischiorectal fossa
- Gluteus maximus muscle
- External anal sphincter muscle
- Skin
- Superficial inguinal ring
- Deep membranous (Scarpa’s) layer of subcutaneous fascia (cut away)
- Inguinal (Poupart’s) ligament
- Fascia lata of thigh
- Superficial perineal (Colles’) fascia (cut away to open superficial perineal space)
- Investing (Gallaudet’s) fascia (partially cut away) covers muscles of superficial perineal space
- Ischial tuberosity
- External spermatic fascia investing spermatic cord
- Superficial perineal (Colles’) fascia (cut lateral edge)
Urogenital Diaphragm of Male

Deep Dissection

- Dorsal artery and nerve of penis
- Deep artery of penis
- Urethral artery
- Bulbourethral (Cowper’s) gland
- Artery of urethral bulb
- Sphincter muscle of membranous urethra
- Urethra
- Deep transverse perineal muscle
- Inferior fascia of urogenital diaphragm (cut edge)
- Intradiaphragmatic part of internal pudendal artery (artery of penis) and dorsal nerve of penis
- Internal pudendal artery and perineal branch
Urinary Bladder - Orientation and Supports
Midsagittal Section
Pelvic Diaphragm

- Funnel Shaped muscular partition separating pelvic cavity from perineum
- Surrounding mid line outlets
Pelvic Diaphragm

Pelvic Diaphragm of Female
Inferior View
Pelvic Diaphragm

Components

Pelvic Muscles

- Lavator Ani & Coccygeus
- Pubococcygeus, ilio–coccygeus, Ischio–coccygeus from before backward

Pelvic Fascia - enclosing the muscles

- Superior & inferior fascia of pelvic diaphragm
Pelvic Fascia

- Distributed in extra-peritoneal space of pelvis
- Covers lateral pelvic walls & pelvic floor
- Dense & membranous over non-expansile structures & loosely arranged over expansile & mobile structures
Pelvic Fascia

- condensed at places to form fibro-muscular ligaments which support pelvic viscera – Prostate, bladder, uterus, rectum
Pelvic Viscera of Female
Superior View - Peritoneum Removed

- Urinary bladder
- Cardinal (Mackenrodt’s) ligament
- Vesical fascia (cut edge)
- Uterine cervix and uterovaginal fascia
- Obturator fascia
- Rectouterine pouch
- Ureter
- Rectal fascia (cut edge)
- Sacral promontory
- External iliac vessels
- Uterosacral ligament
- Obturator artery
- Obturator canal
- Superior fascia of pelvic diaphragm
Pelvic muscles

Includes two groups

- Piriformis
- Obturator internus

&

- Lavator ani & coccygeus – divisible into
- Pubococcygeus, Iliococcygeus, Ischiococcygeus (Coccygeus)
Pelvic Diaphragm of Female
Medial View

- Obturator internus muscle and fascia (cut)
- Arcuate line of ilium
- Tendinous arch of levator ani muscle
- Obturator canal
- Iliococcygeus part of levator ani muscle
- Pubococcygeus part of levator ani muscle
- Urethra
- Transverse perineal ligament
- Superior and inferior fascia of urogenital diaphragm
- Vagina
- Superficial transverse perineal muscle
- Rectum
- Ischial spine
- Piriformis muscle
- Coccygeus muscle
- Left levator ani muscle (cut)
- External anal sphincter muscle
Pelvic Diaphragm of Female
Superior View
Pelvic Diaphragm

* = levator prostates m. in the male
Note: Levator Ani m. is innervated by perineal branch of pudendal n. and perineal branch of S4
Functions of Pelvic diaphragm

- Fixes perineal body & Support pelvic viscera
- Counteract downward thrust of diaphragm during increased intra-abdominal pressure - coughing
- Ant. Fibres of lavator ani elevate prostate (lavator prostatae)
- In females ant. Fibres constrict vagina (sphinctor vaginae) prevent downward displacement of uterus through vaginal canal
Functions of Pelvic diaphragm

- Coccygeus pulls coccyx forward after it is displaced backward during defaecation & parturition
- During defaecation pubo-rectal ring relaxes & rectum & anal canal form a straight tube. At same time pubo-anal fibres elevate the anus
Functions of Pelvic diaphragm

- During parturition – foetal head descends and rests upon pubo-rectal ring which allows forward rotation of head into the lower part of birth canal
- In micturation the pubo-coccygeal relax as the intra-abdominal pressure rises, and the bladder neck descends stimulating contraction of detrusor muscle of urinary bladder helping voiding urine
Applied Anatomy of Pelvic diaphragm

- Perineal body may be torn in female during parturition
- If not properly repaired, hiatus urogenitalis become wider when levator ani contracts & through the gap female pelvic viscera may be displaced downward producing prolapse of uterus