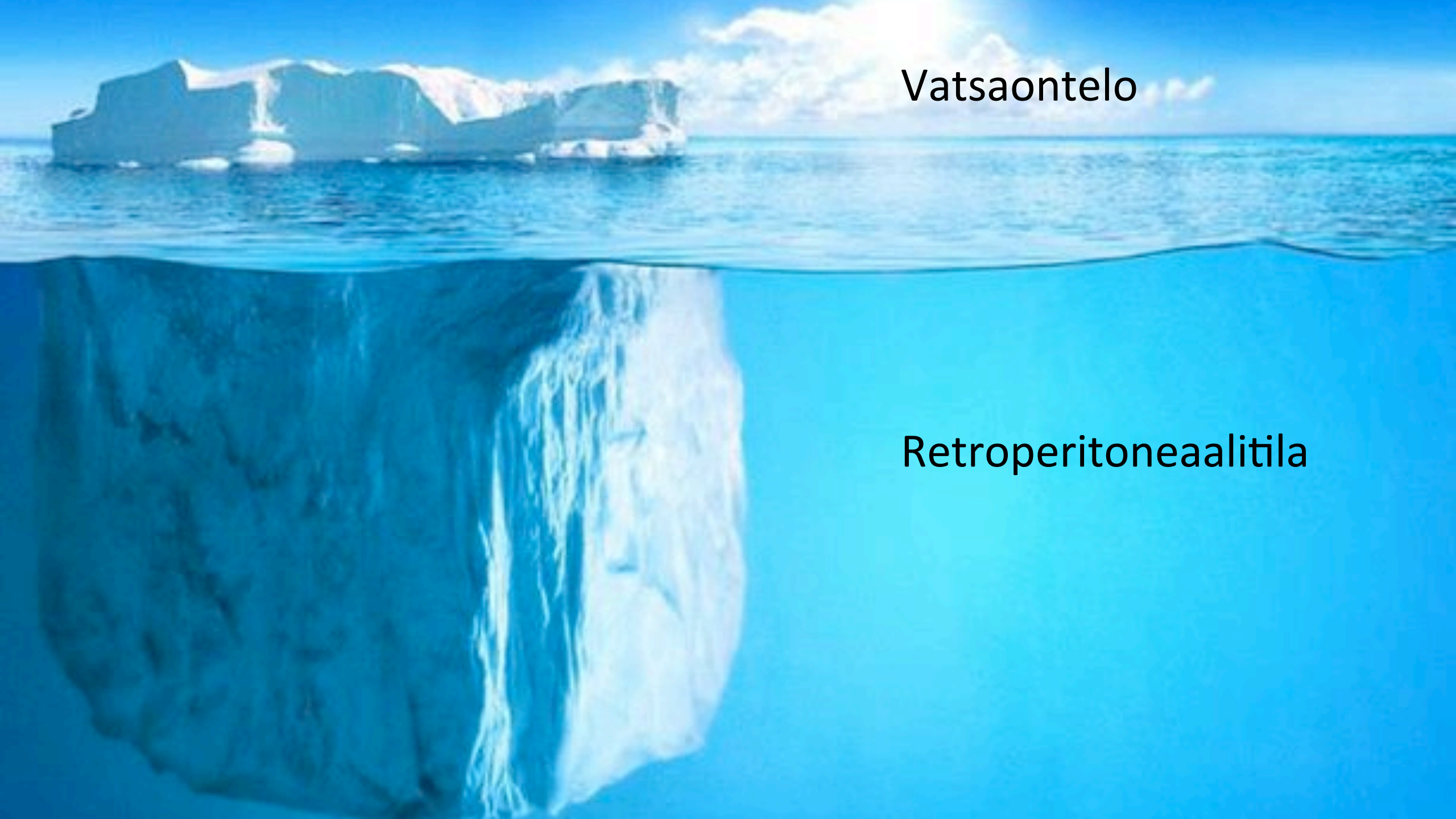


VATSAONTELON ANATOMIAA

El Pia Suvitie
TYKS Naistenklinikka
EGO-päivät Turussa 31.10-1.11.2019



A photograph of an iceberg floating in the ocean. The visible tip of the iceberg is in the upper left, while the much larger, submerged part is visible below the water line. The sky is blue with some clouds, and the water is a deep blue. The text 'Vatsaontelo' is in the top right, and 'Retroperitoneaalitila' is in the middle right.

Vatsaontelo

Retroperitoneaalitila

Lig.
rotundum

Oikea kornu

Kohdun fundus

Lig. ovarii
propria

Lig. latum

Vasen tuuba ja
ovario

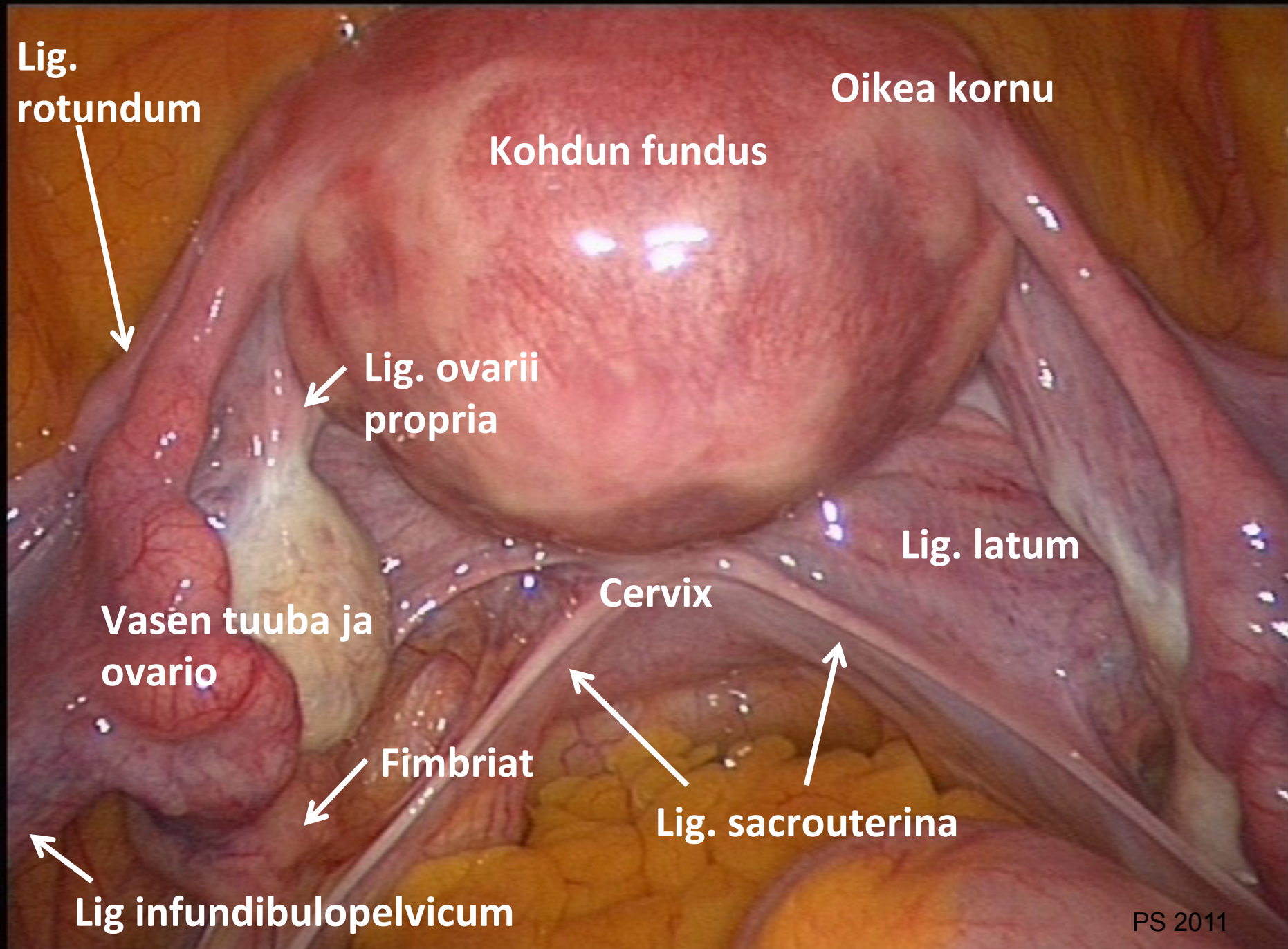
Cervix

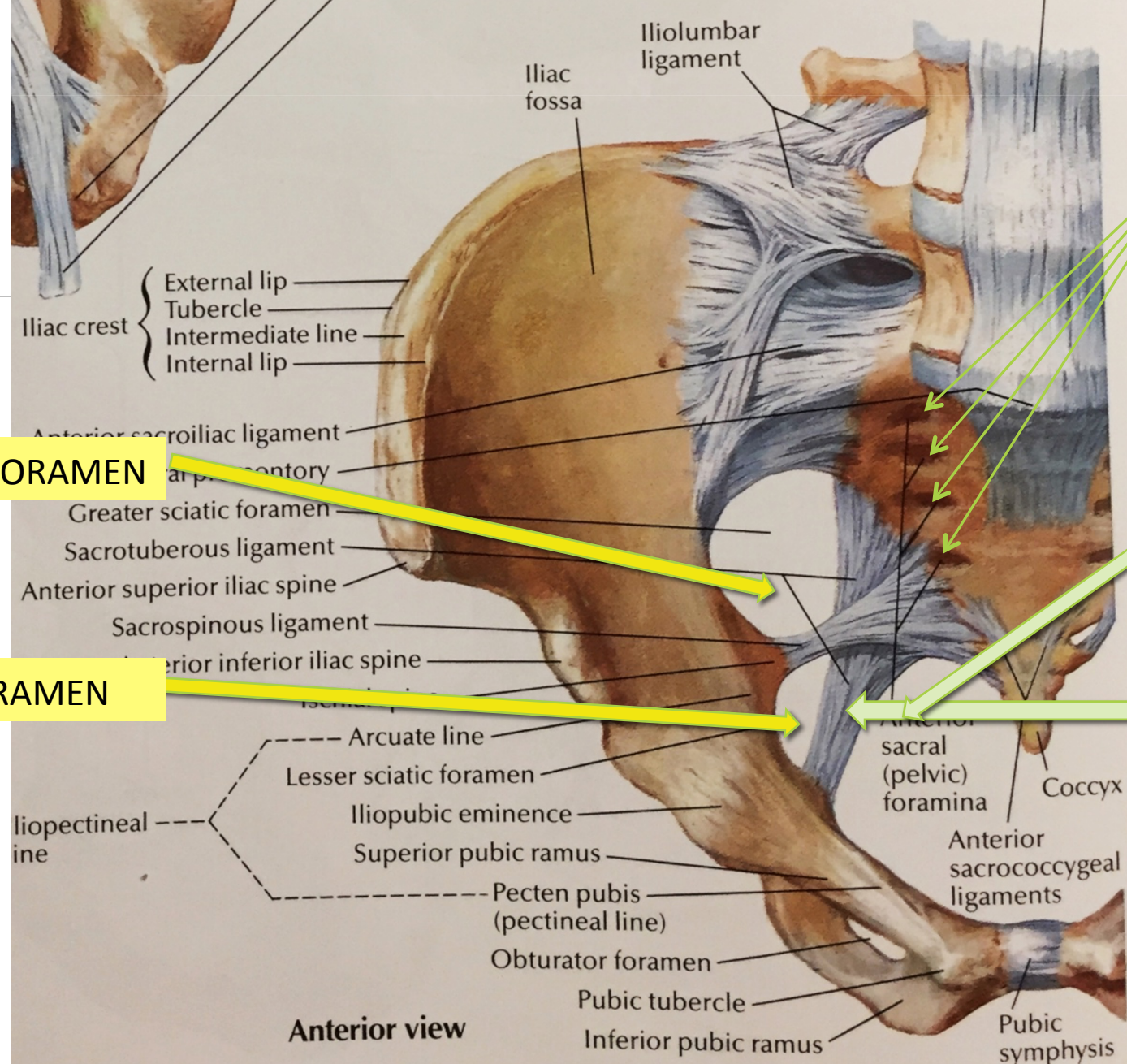
Fimbriat

Lig. sacrouterina

Lig infundibulopelvicum

PS 2011





GREATER SCIATIC FORAMEN

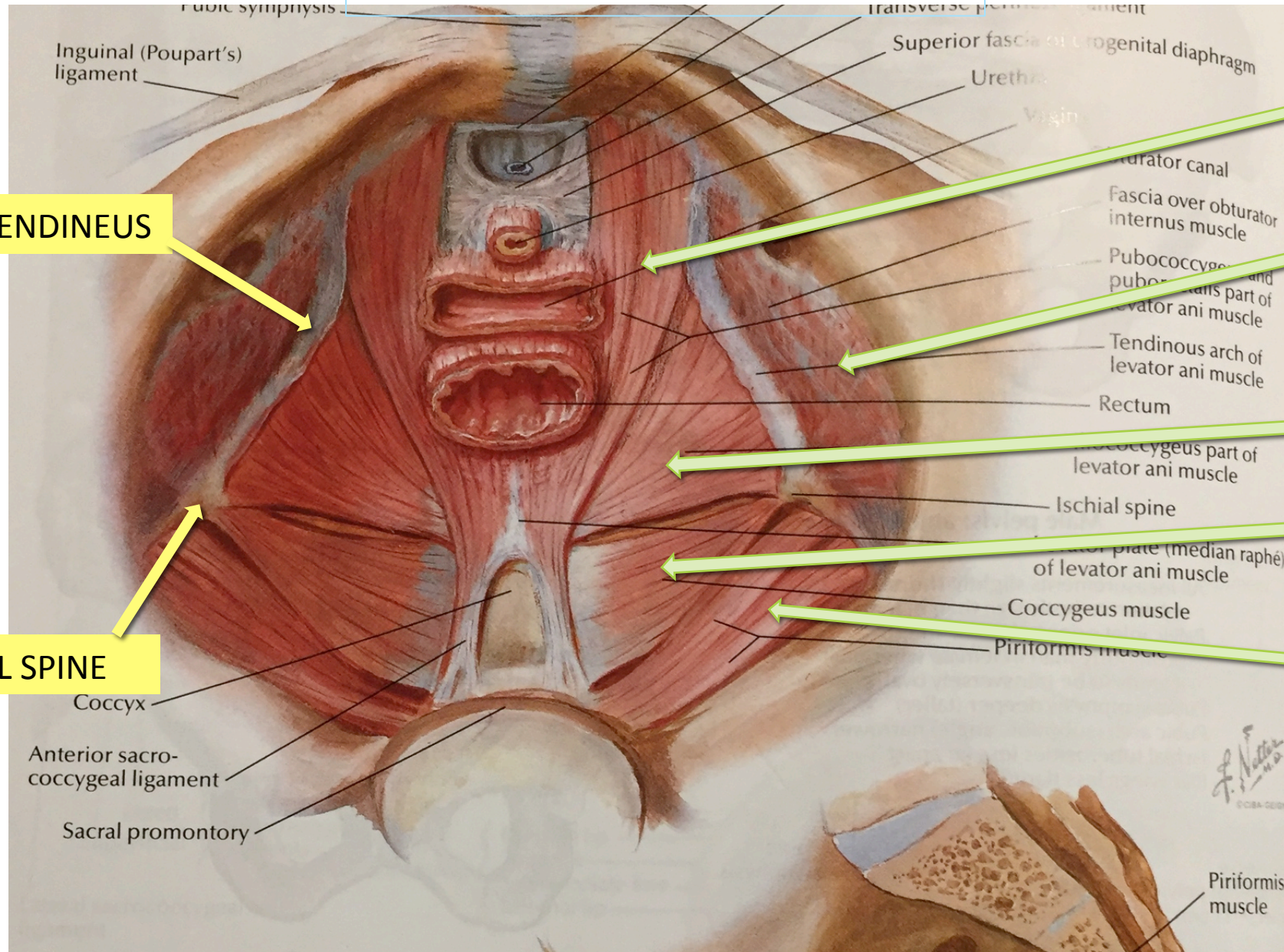
LESSER SCIATIC FORAMEN

SACRAL FORAMINA (1-4)

SACROSPINOUS
LIGAMENT

SACROTUBEROUS
LIGAMENT

PELVIC FLOOR MUSCLES



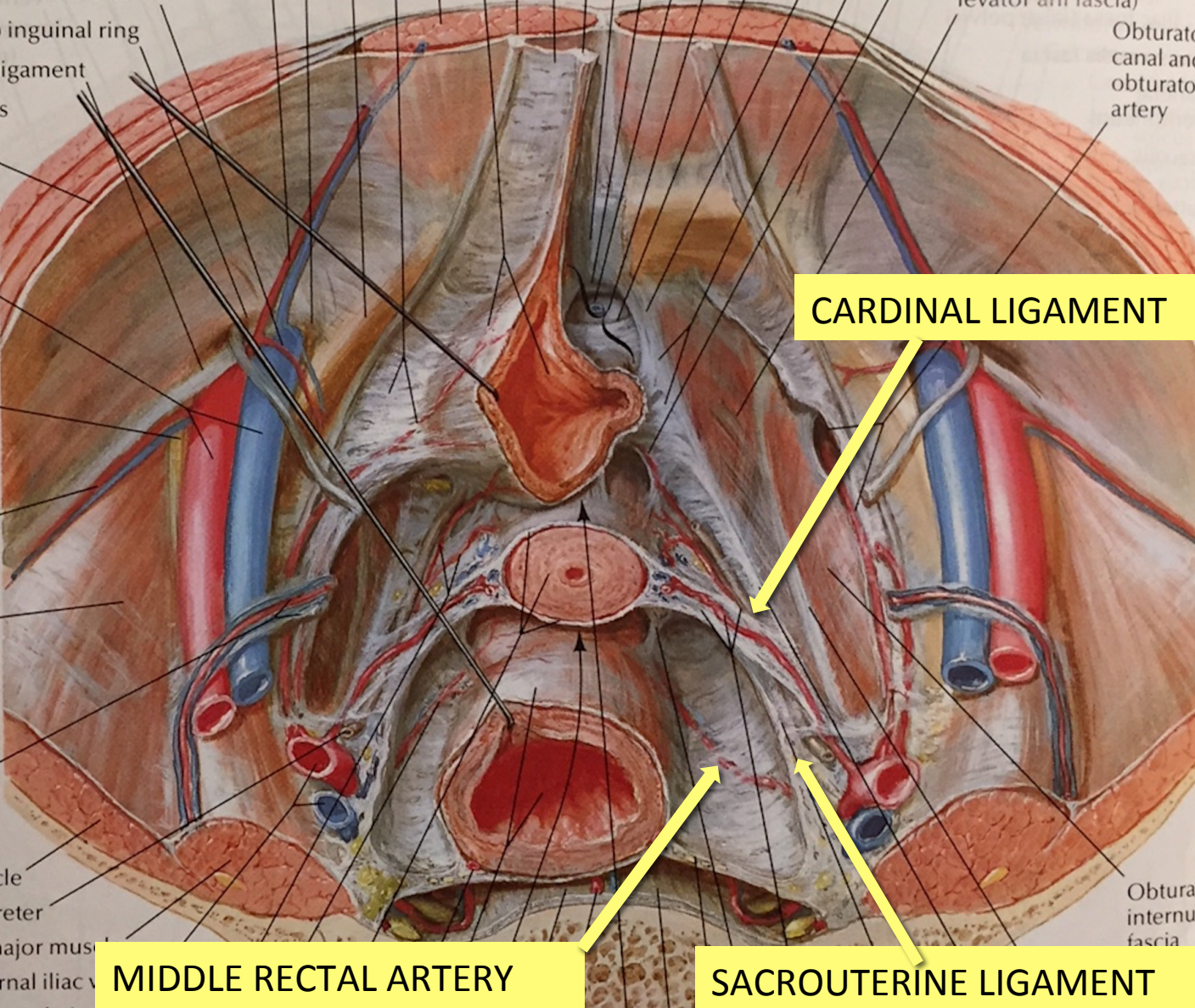
PUBOCOCCYGEUS

OBTURATOR INTERNUS

ILEOCOCCYGEUS

COCCYGEUS

PIRIFORMIS



ENDOPELVIC FASCIA

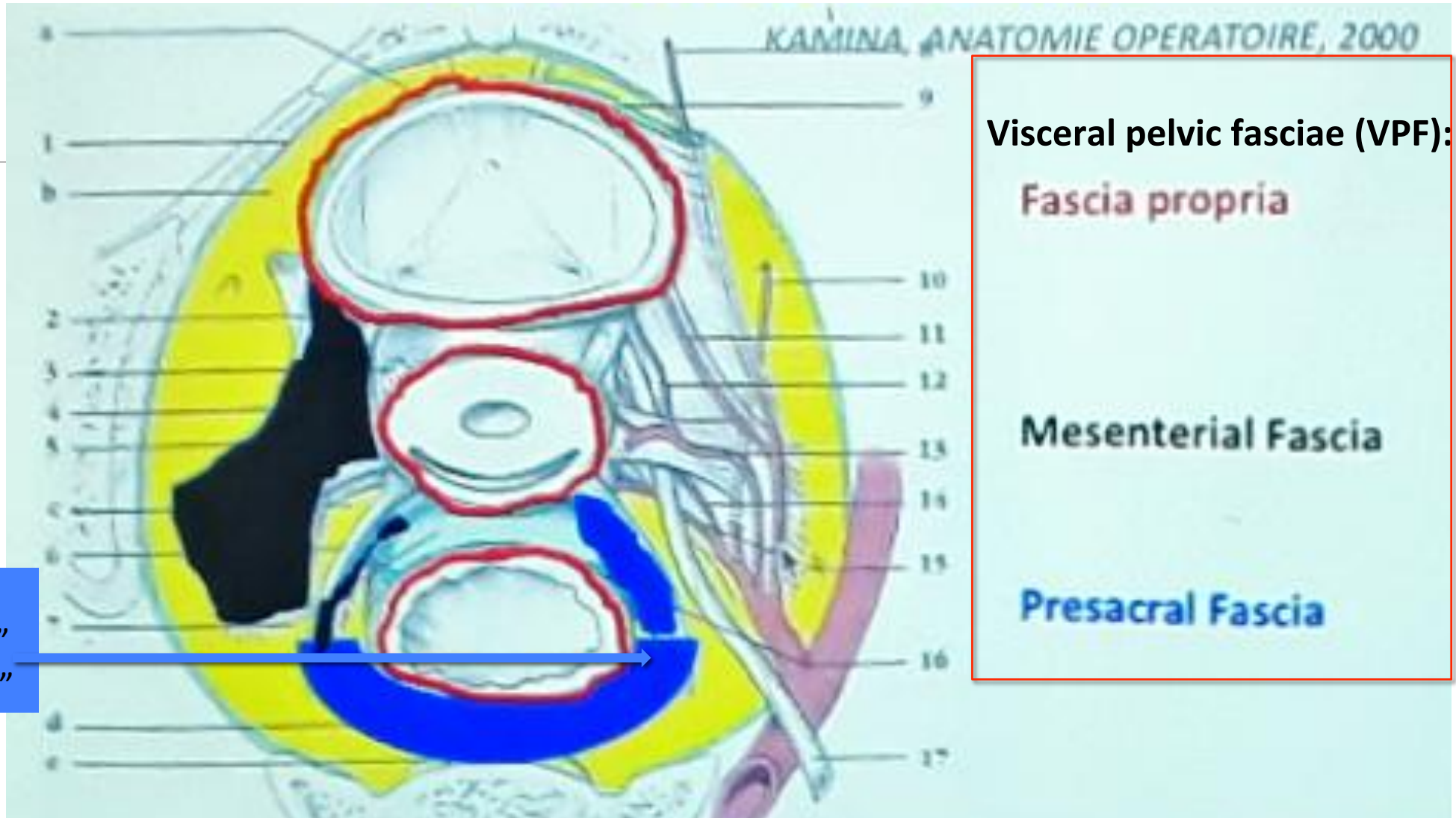
PARIETAL PELVIC FASCIA (PPF)

- ◆ A double layer fascial sheet covering the pelvic floor muscles

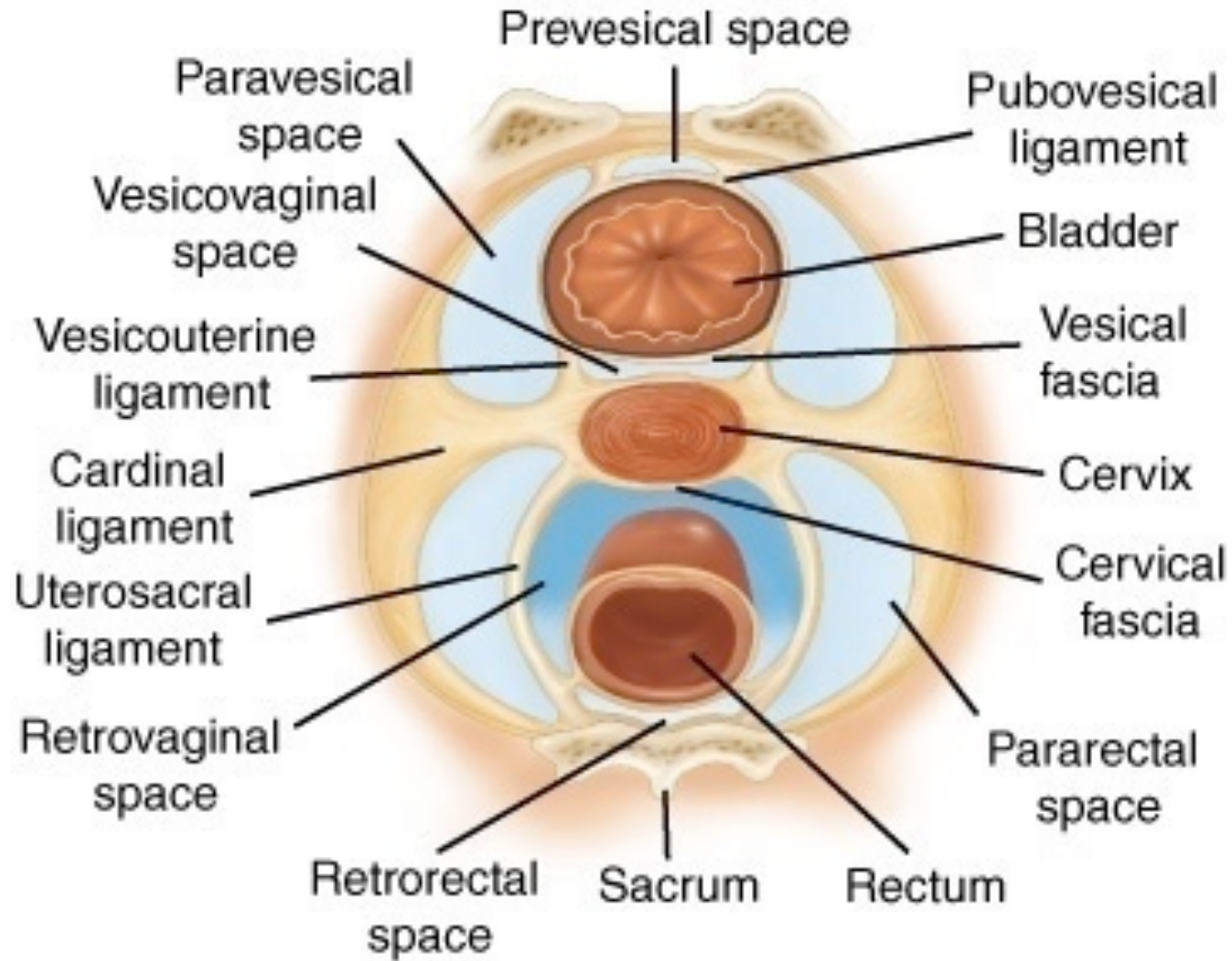
VISCERAL PELVIC FASCIA (VPF)

- ◆ A neurovascular network embedded in variable dense connective tissue
- ◆ Surgically dissectable in singular fasciae and ligaments delimited by avascular spaces

VISCERAL PELVIC FASCIAE



Pelvic avascular spaces



Midline spaces

- Prevesical
- Vesicovaginal
- Rectovaginal
- Retrorectal

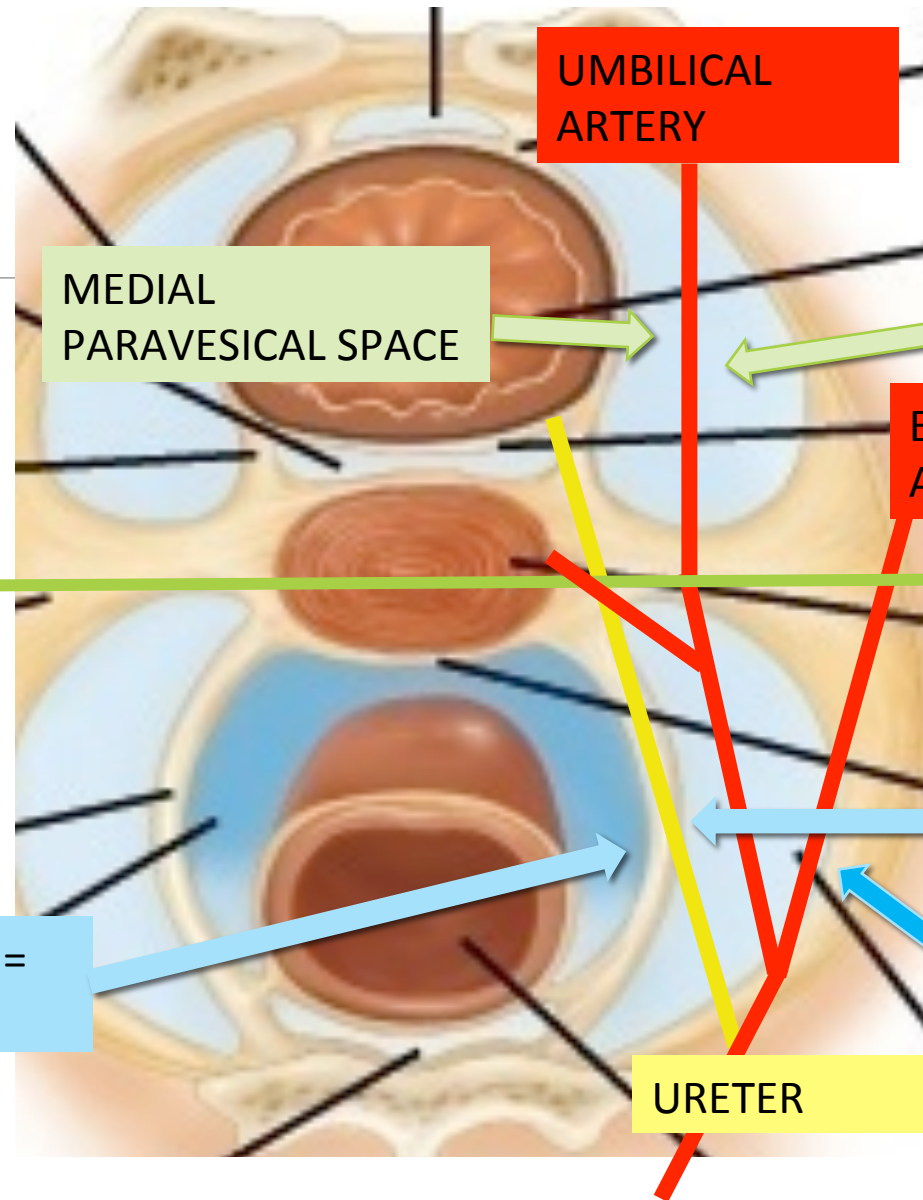
Lateral spaces

- Paravesical
- Pararectal

Source: Brunicardi FC, Andersen DK, Billiar TR, Dunn DL, Hunter JG, Matthews JB, Pollock RE: *Schwartz's Principles of Surgery, 9th Edition*: <http://www.accessmedicine.com>

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LATERAL SPACES



UMBILICAL
ARTERY

MEDIAL
PARAVESICAL SPACE

OBTURATOR SPACE

EXTERNAL ILIAC
ARTERY

ANTERIOR SPACES

LEVEL OF THE UTERINE ARTERY

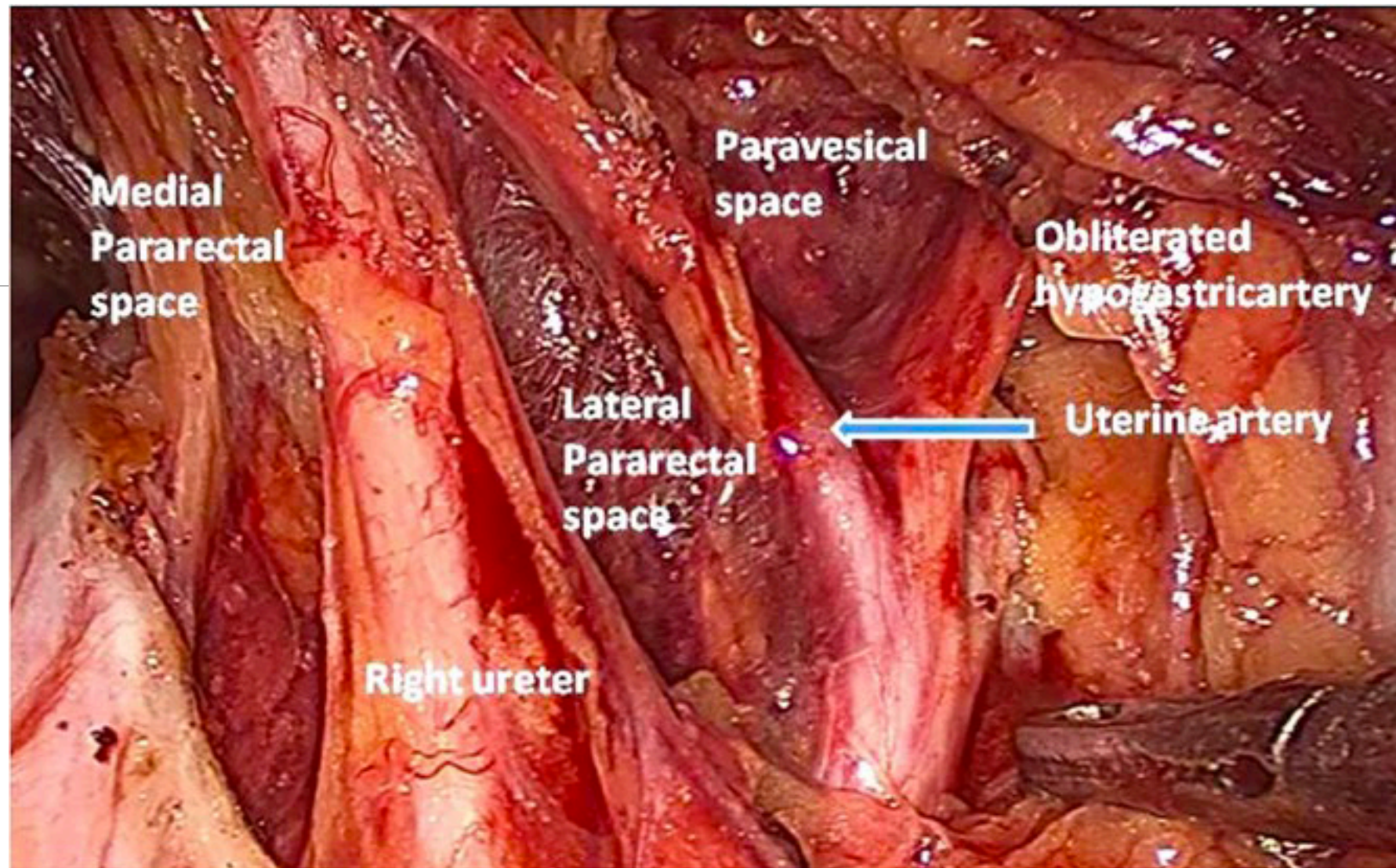
POSTERIOR SPACES

MEDIAL PARARECTAL SPACE =
OKABAYASHI SPACE

LATERAL PARARECTAL SPACE =
LATZKO SPACE

ILIOLUMBAR SPACE

URETER



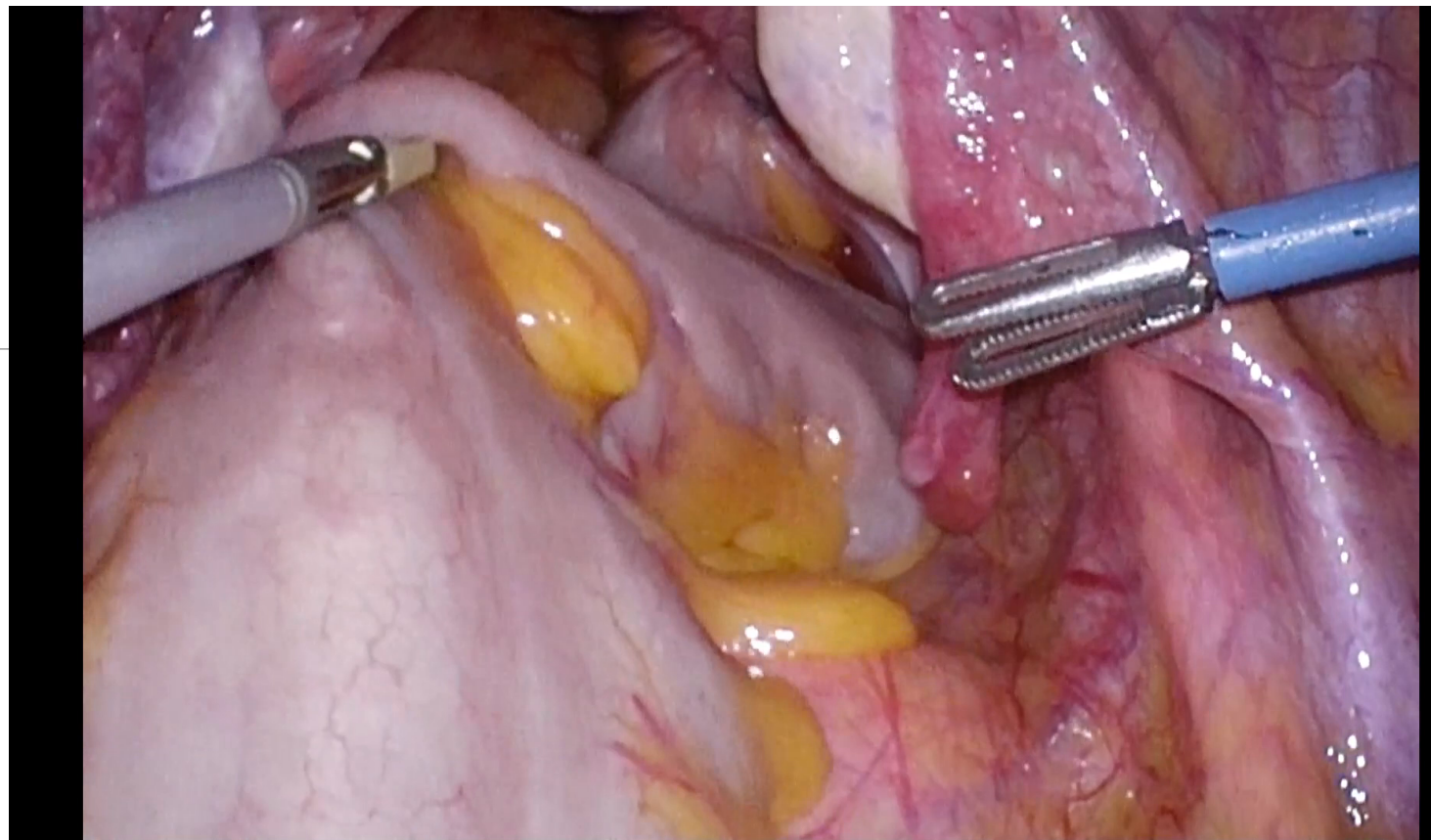
The ureter divides the pararectal space into medial (Okabayashi) and lateral (Latzko) space

Puntambekar 2018 Surgical pelvic anatomy in gynecologic oncology

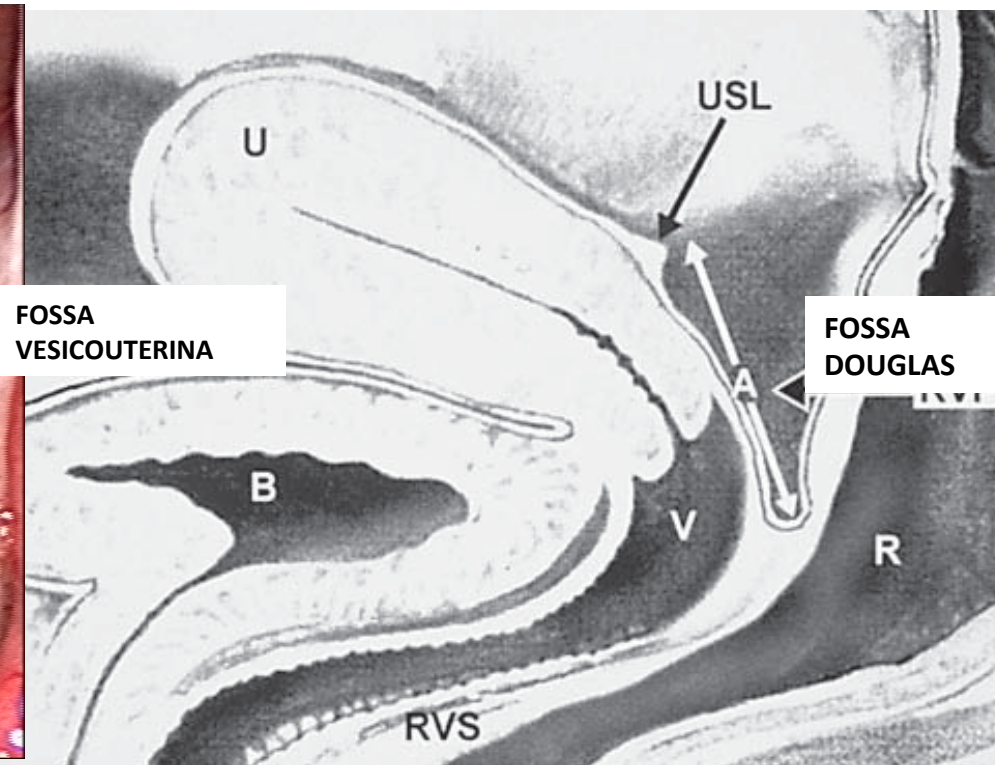
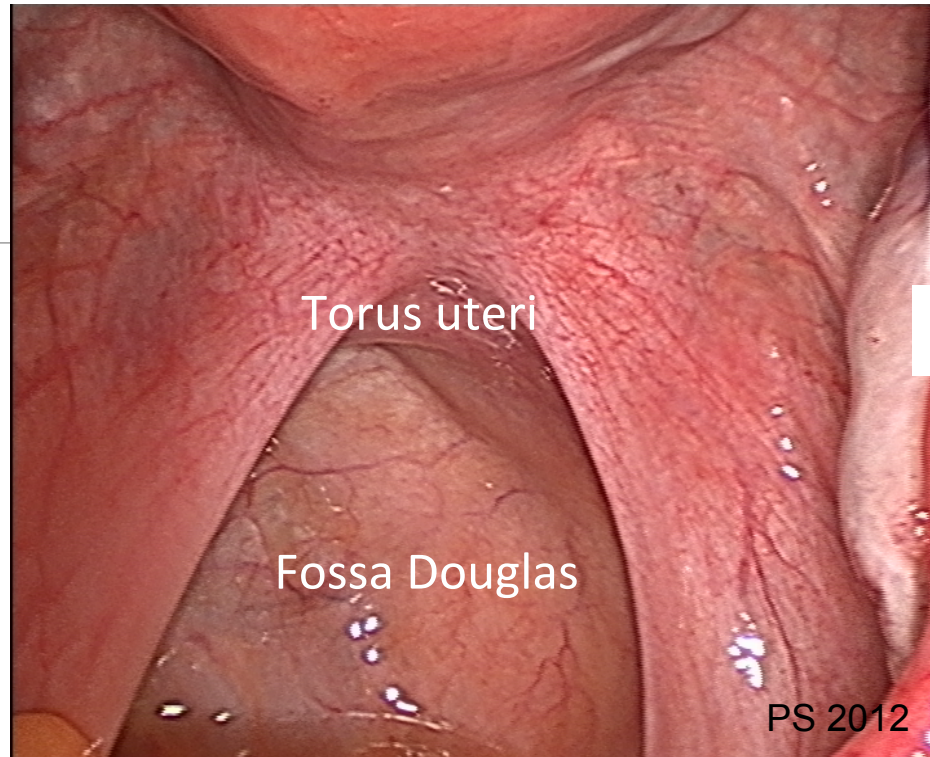
Medial pararectal space (Okabayashi)

Surgical approach to

- ❖ Uterosacral ligaments
- ❖ Rectovaginal septum
- ❖ Nerve sparing surgery



Sacruterinaligamentit ja fossa Douglas

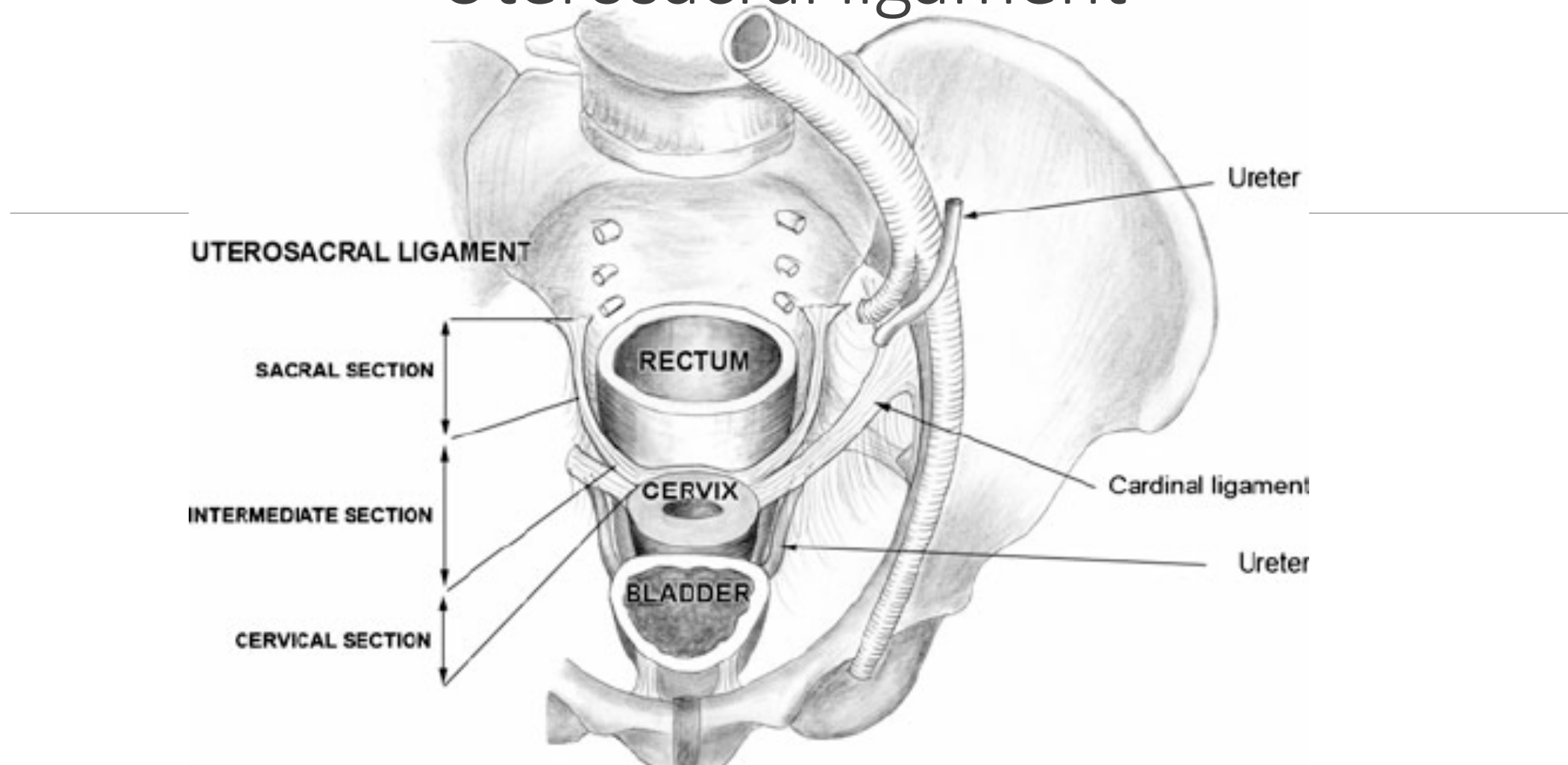


Fossa Douglasin syvyys keskim. 5,5cm (Vercellini 2000)

Fossa Douglasin pohja ulottuu n. 1/3 vaginan pituudesta (vaihtelu 90-10 %) (Batt 2014)

Fig. 1. Schematic diagram of the anatomy of the pouch of Douglas. A = Depth of the pouch; B = bladder; R = rectum; RVP = recto-vaginal pouch; RVS = rectovaginal septum; U = uterus; USL = uterosacral ligament; V = vagina; VUP = vesicouterine pouch. From Vercellini et al. [21], with permission.

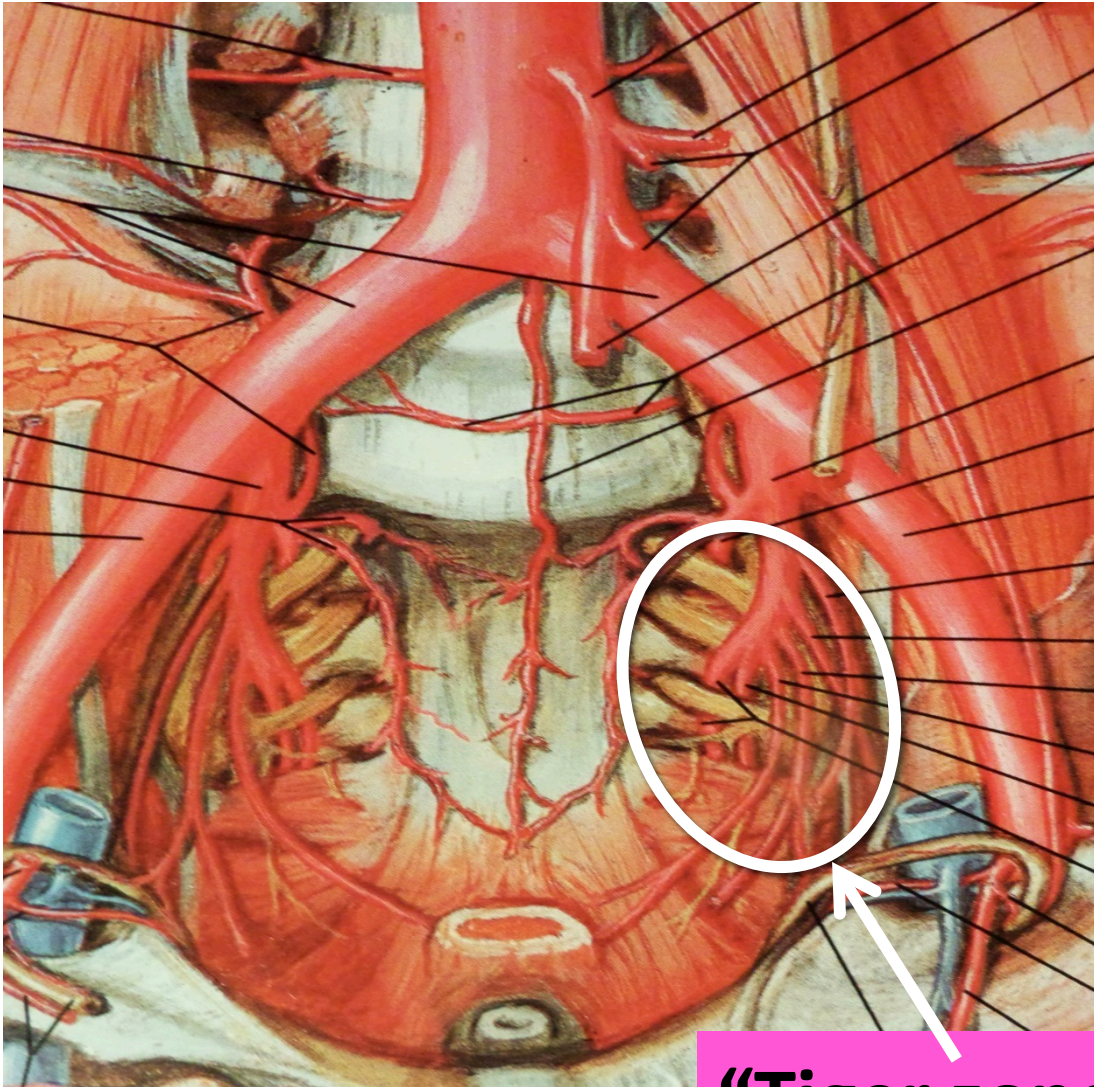
Uterosacral ligament



Umek 2004: The origin of the uterosacral ligament from the genital tract extends from the cervix to the upper vagina. The insertion on the pelvic sidewall occurs to the sacrospinous ligament and the coccygeus muscle in 82% of all cases, but in only 7% do the uterosacral ligaments insert on the sacrum.

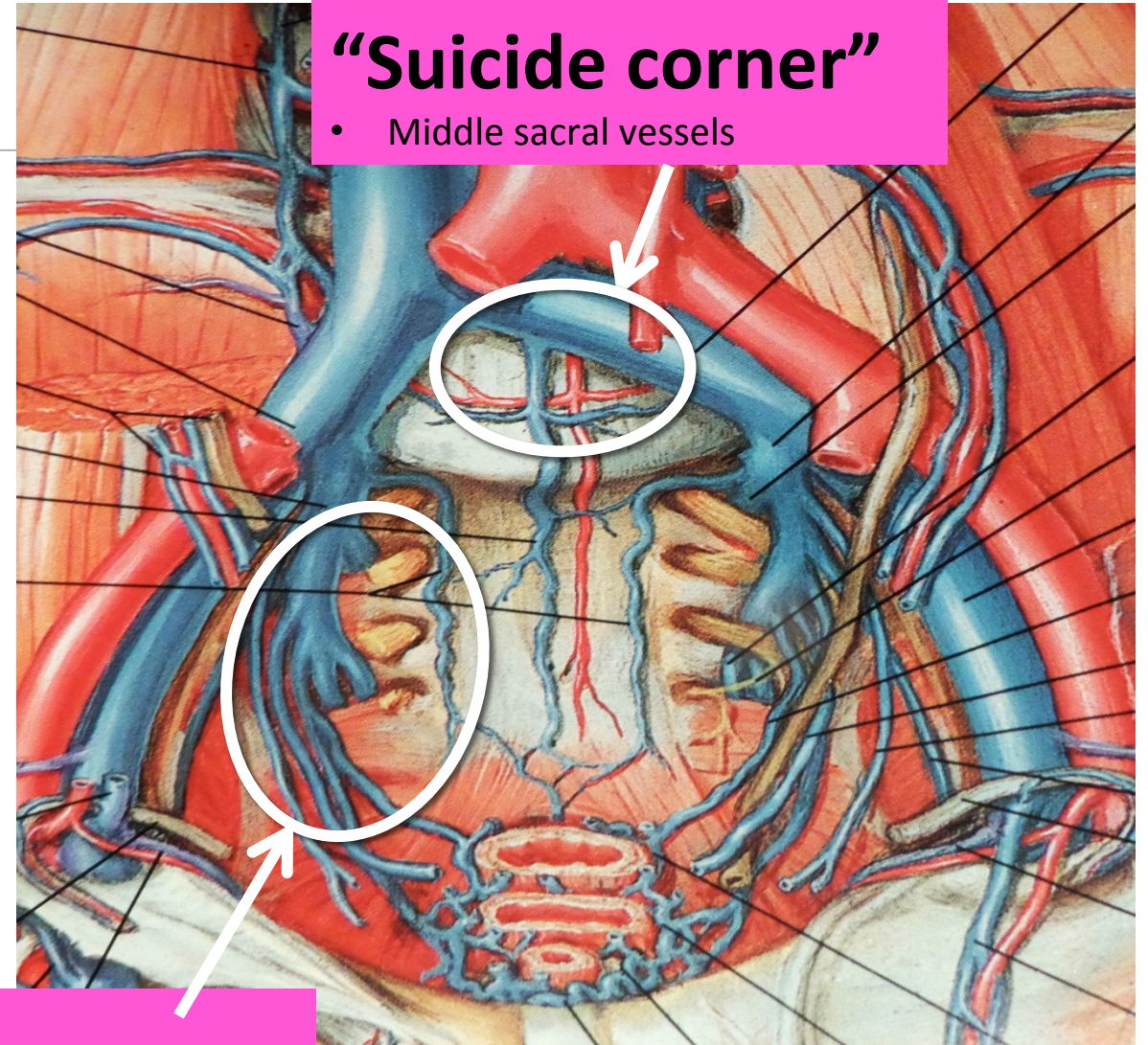
Pelvic vessels

Internal iliac artery and vein have individual variations



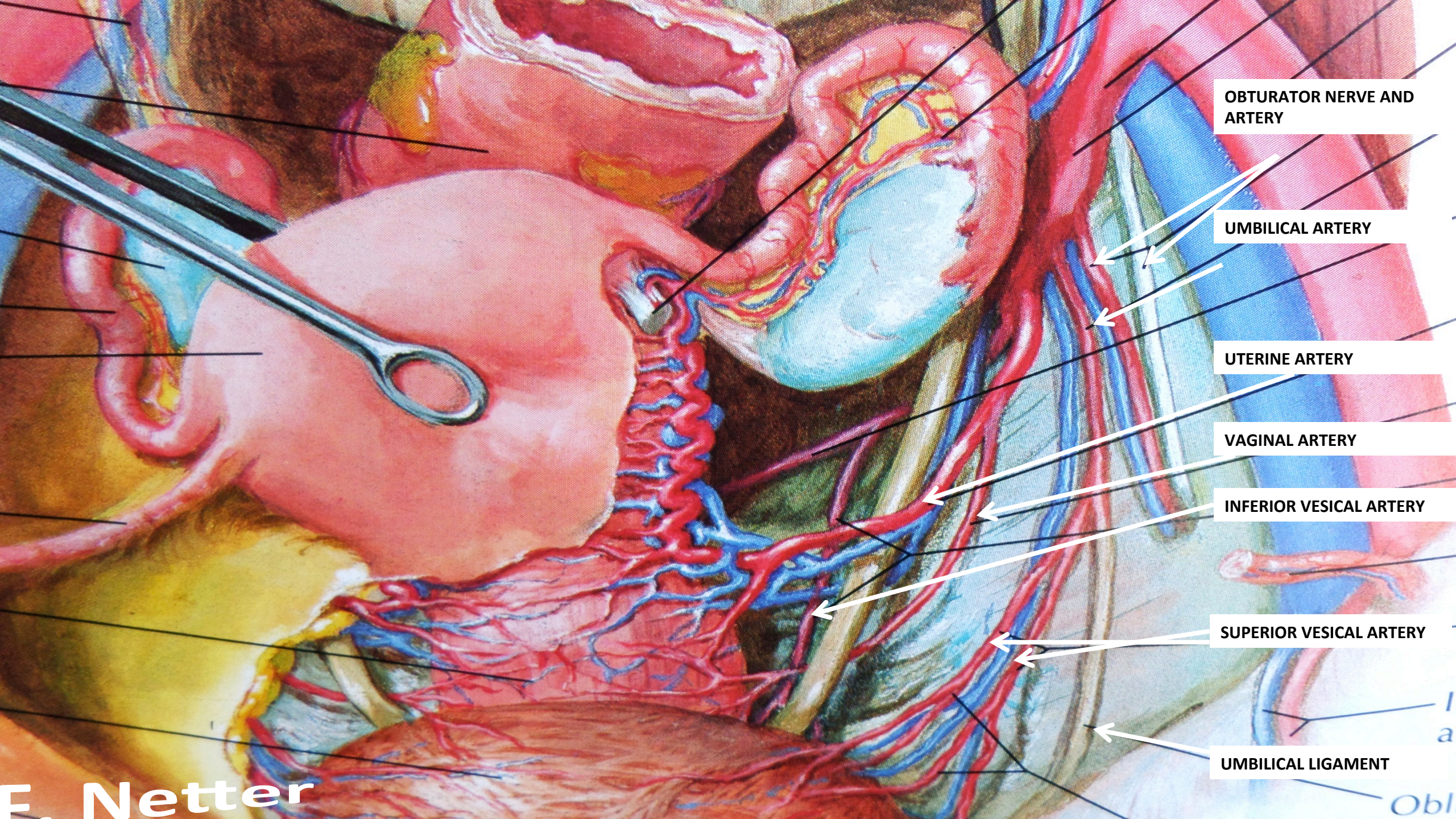
"Tiger zone"

Internal iliac vessels and sacral nerve roots



"Suicide corner"

- Middle sacral vessels



OBTURATOR NERVE AND ARTERY

UMBILICAL ARTERY

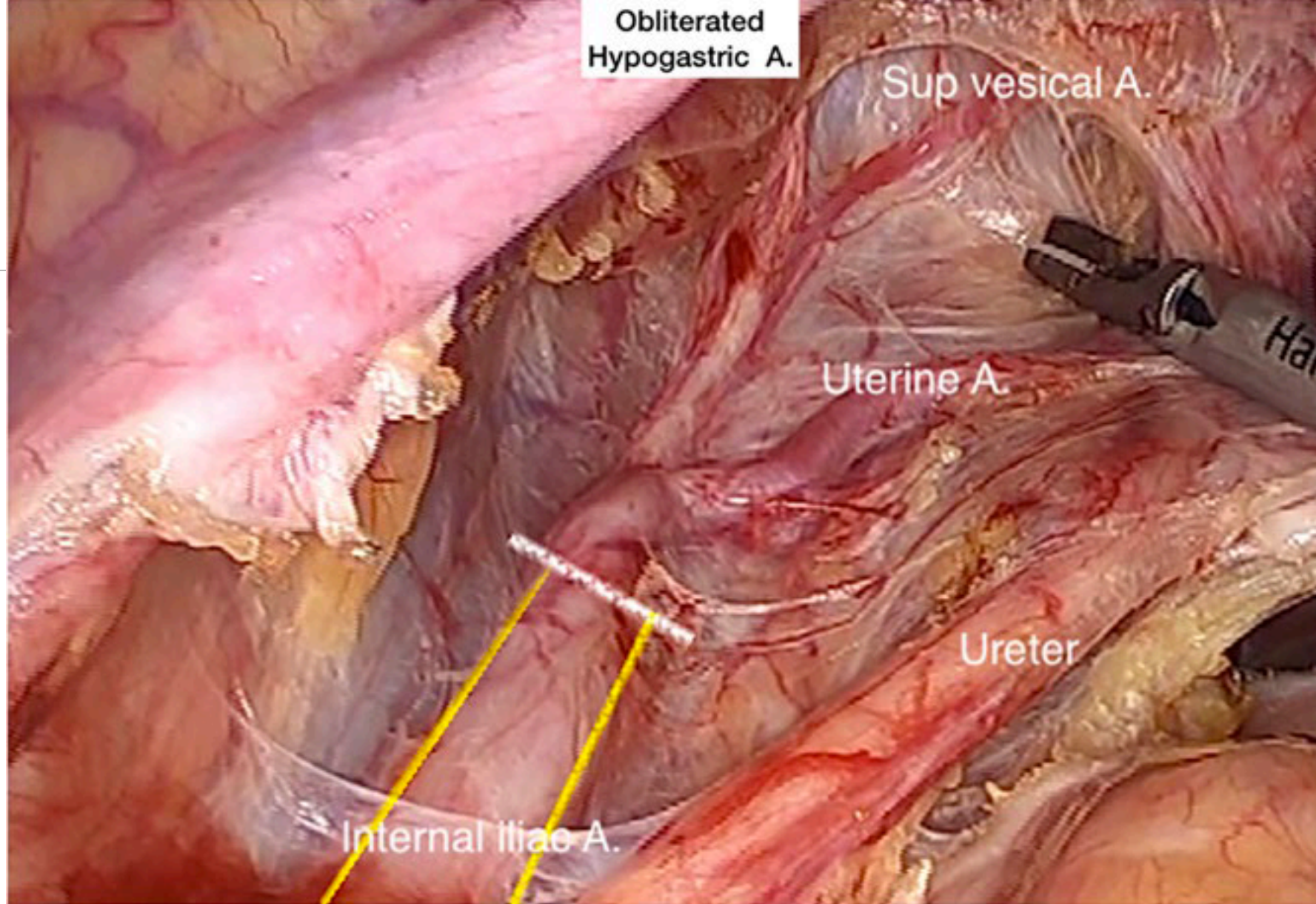
UTERINE ARTERY

VAGINAL ARTERY

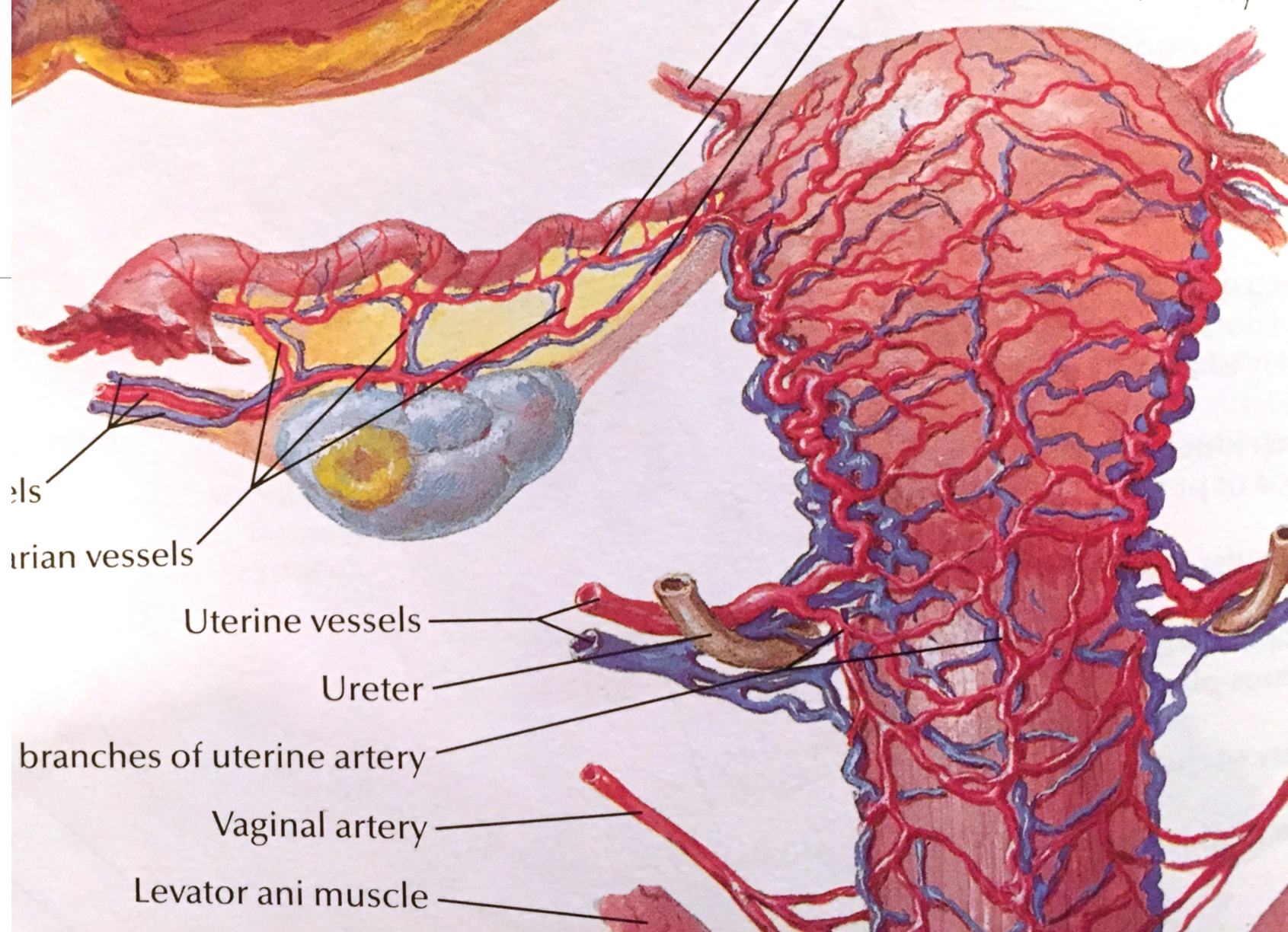
INFERIOR VESICAL ARTERY

SUPERIOR VESICAL ARTERY

UMBILICAL LIGAMENT



Internal iliac vessels as the lateral border and uterine artery is the caudal border of the pararectal space



The most common natural predator to the ureter is the gynecologist

»anonymous urologist



THE URETERS

The image contains three anatomical diagrams illustrating the ureters and common sites of injury. The main diagram on the left shows the abdominal and pelvic vasculature and organs, with the ureters highlighted in red. A central text box lists the typical sites of ureteral injury: Pelvic brim, Paracervix, and Near the uretero-vesical junction. To the right, there are two smaller diagrams: the top one shows a cross-section of the pelvic brim area, and the bottom one shows a cross-section of the paracervix area. Arrows point from the text box to these two diagrams, indicating the specific locations of injury.

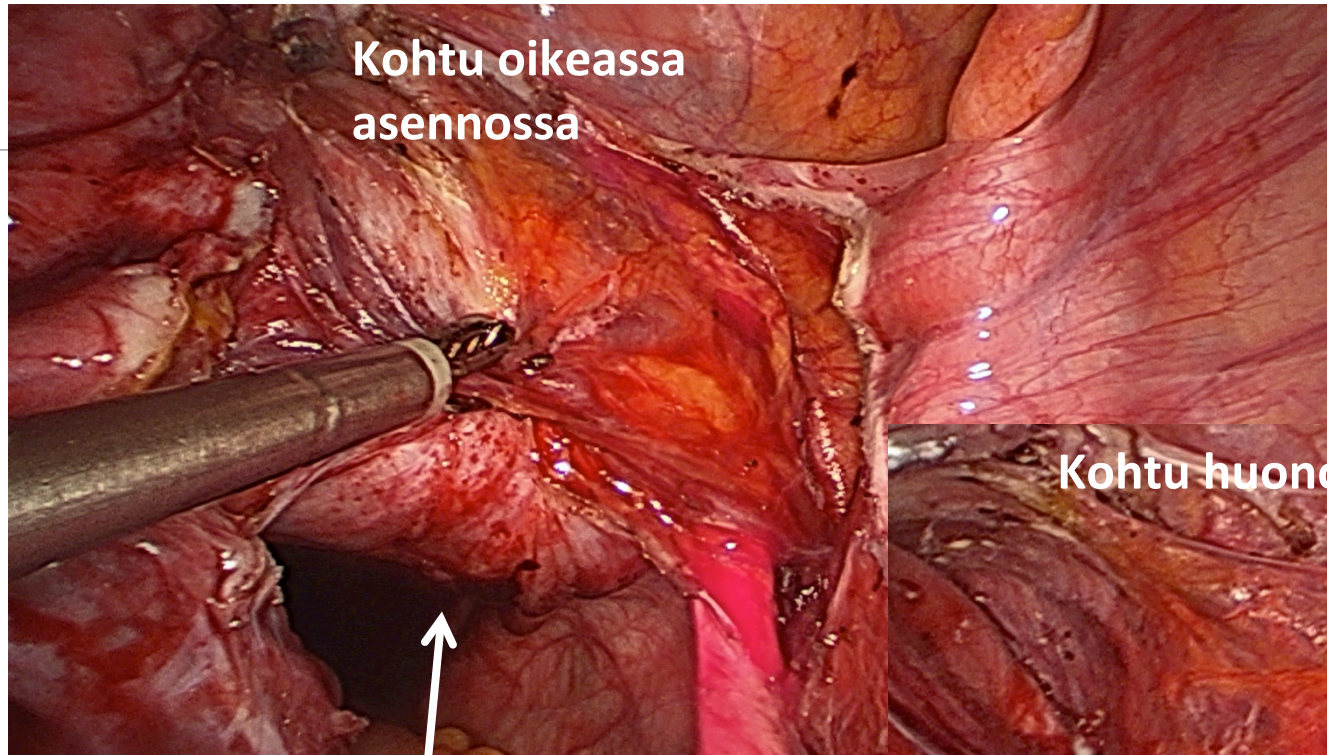
TYPICAL SITES OF URETERAL INJURY

- Pelvic brim
- Paracervix
- Near the uretero-vesical junction

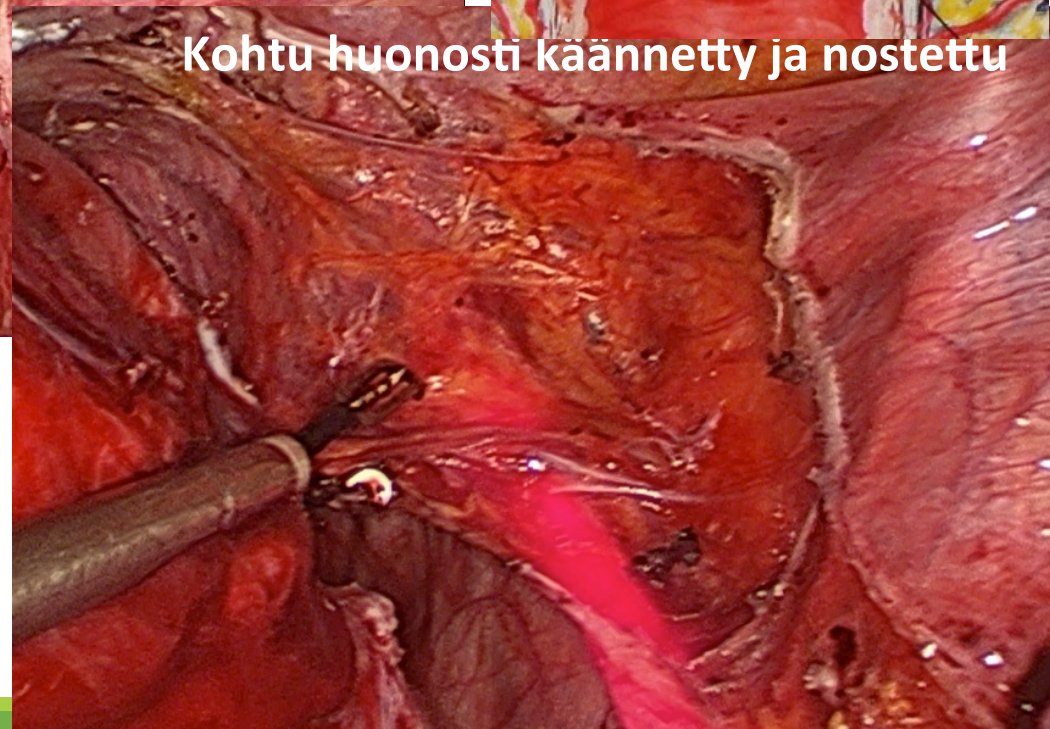
- Pelvic brim
- Paracervix
- Near the uretero-vesical junction

- Pelvic brim
- Paracervix
- Near the uretero-vesical junction

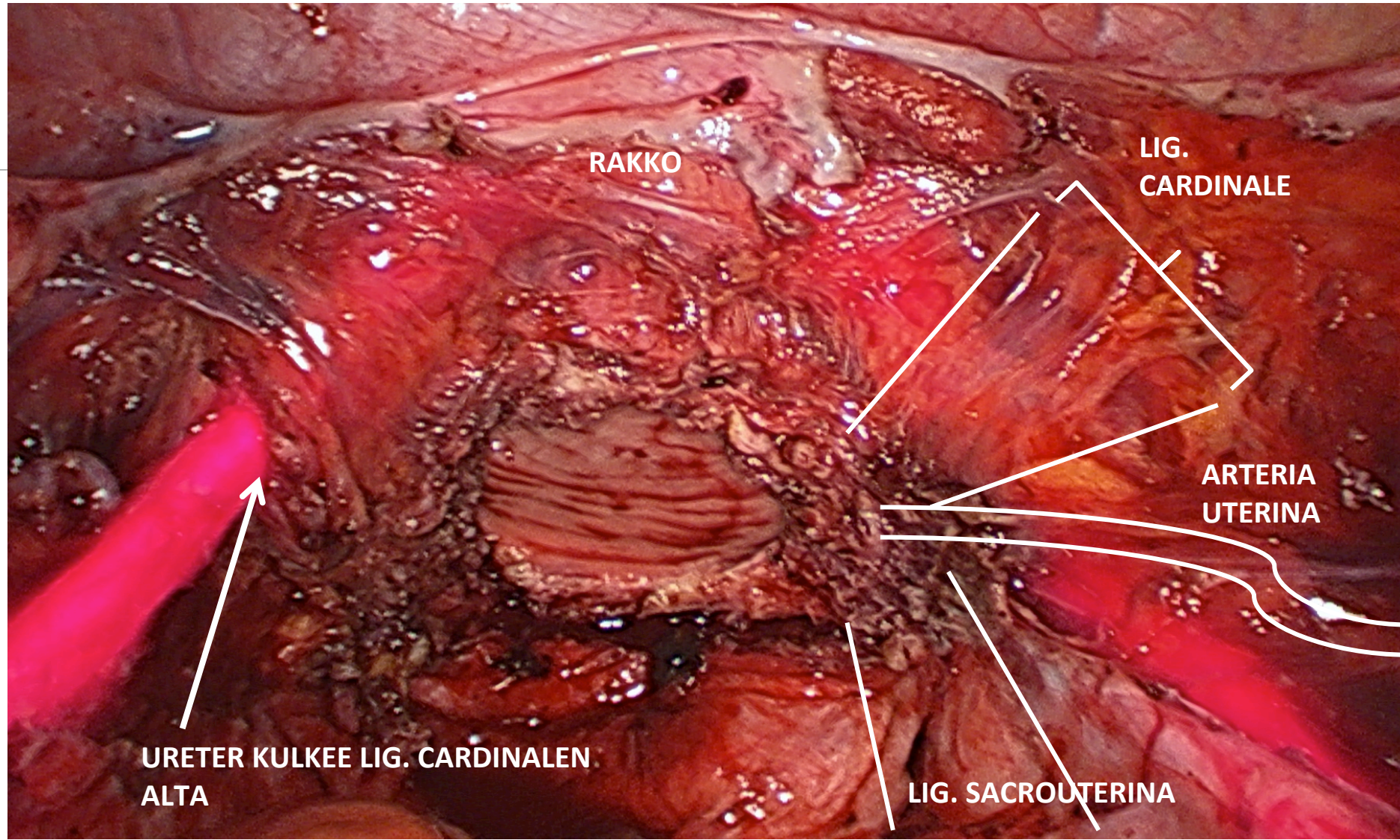
Uterinojen sijainti ja katkaisu



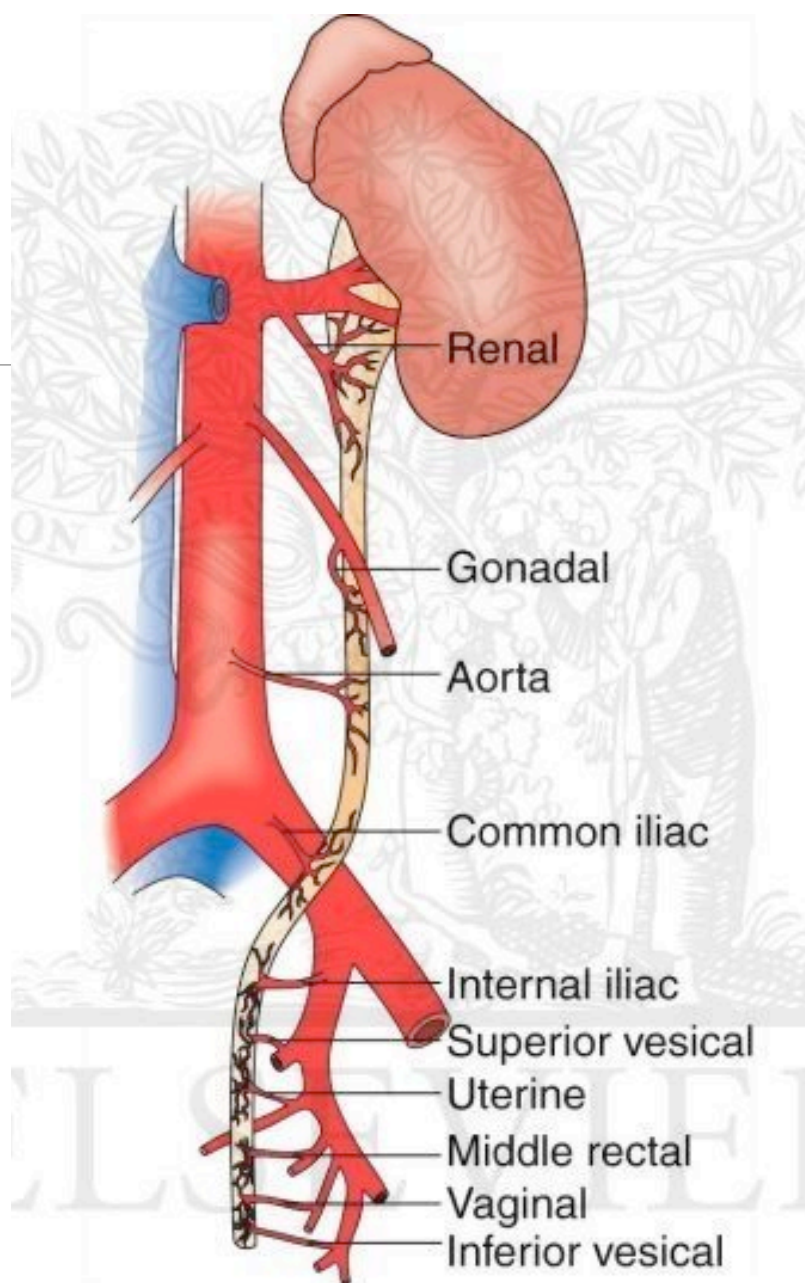
**Cervix ylös ja viistoon
työnnettynä – ureter laskee
alas ja lateraalisesti**



Ureterin kulku kohdunpoistossa

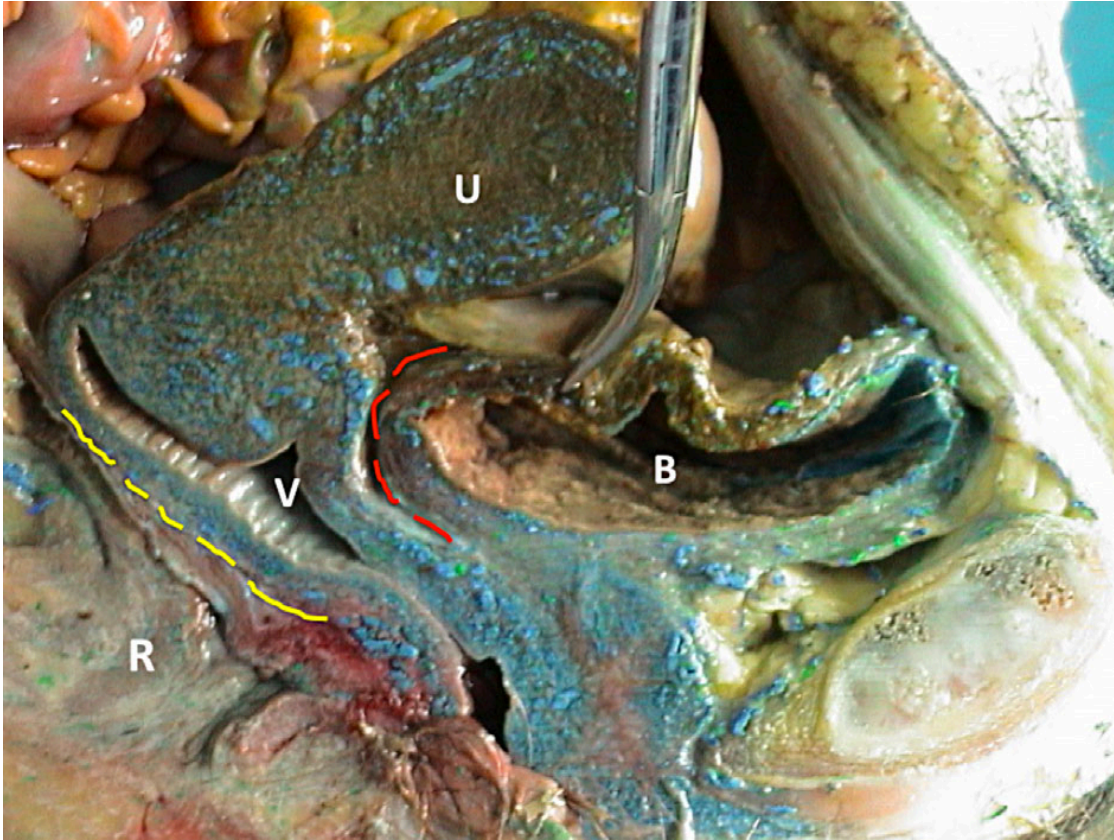


VASCULAR SUPPLY OF THE URETERS

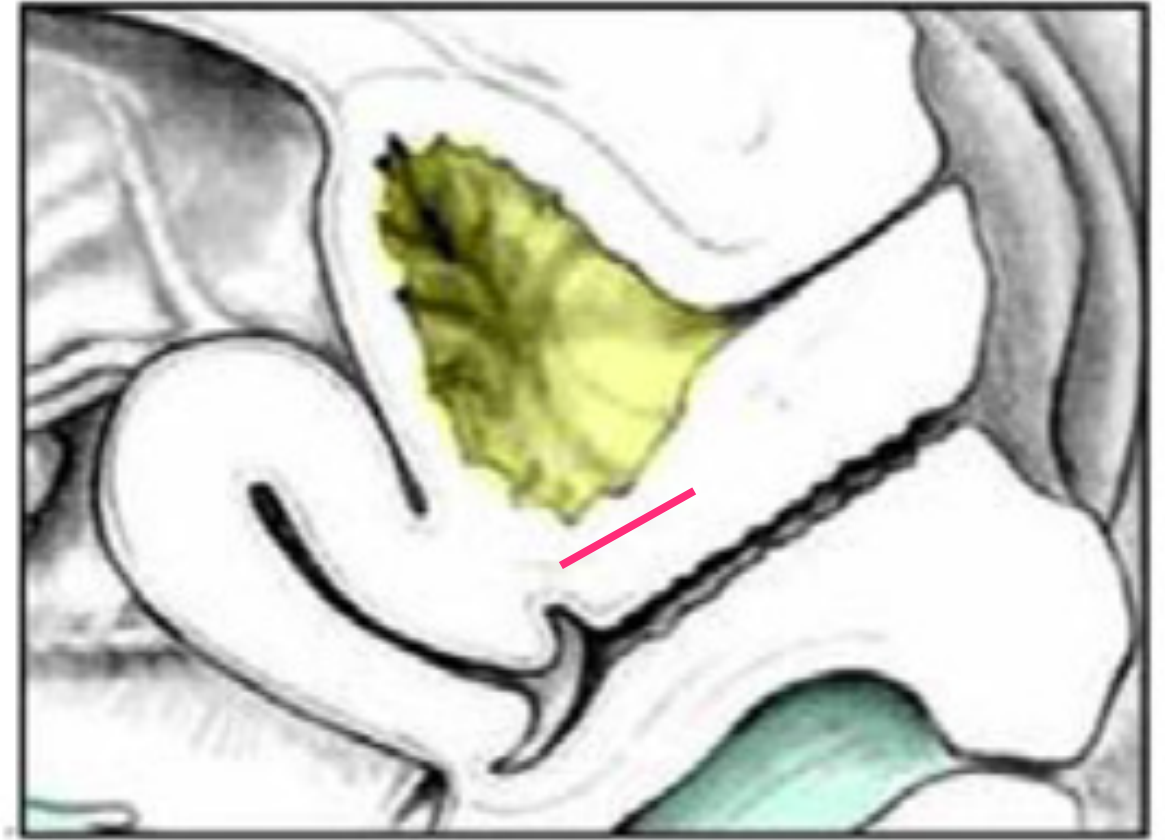


Anterior compartment

Upper 1/3 of the vagina lies
above the trigonum

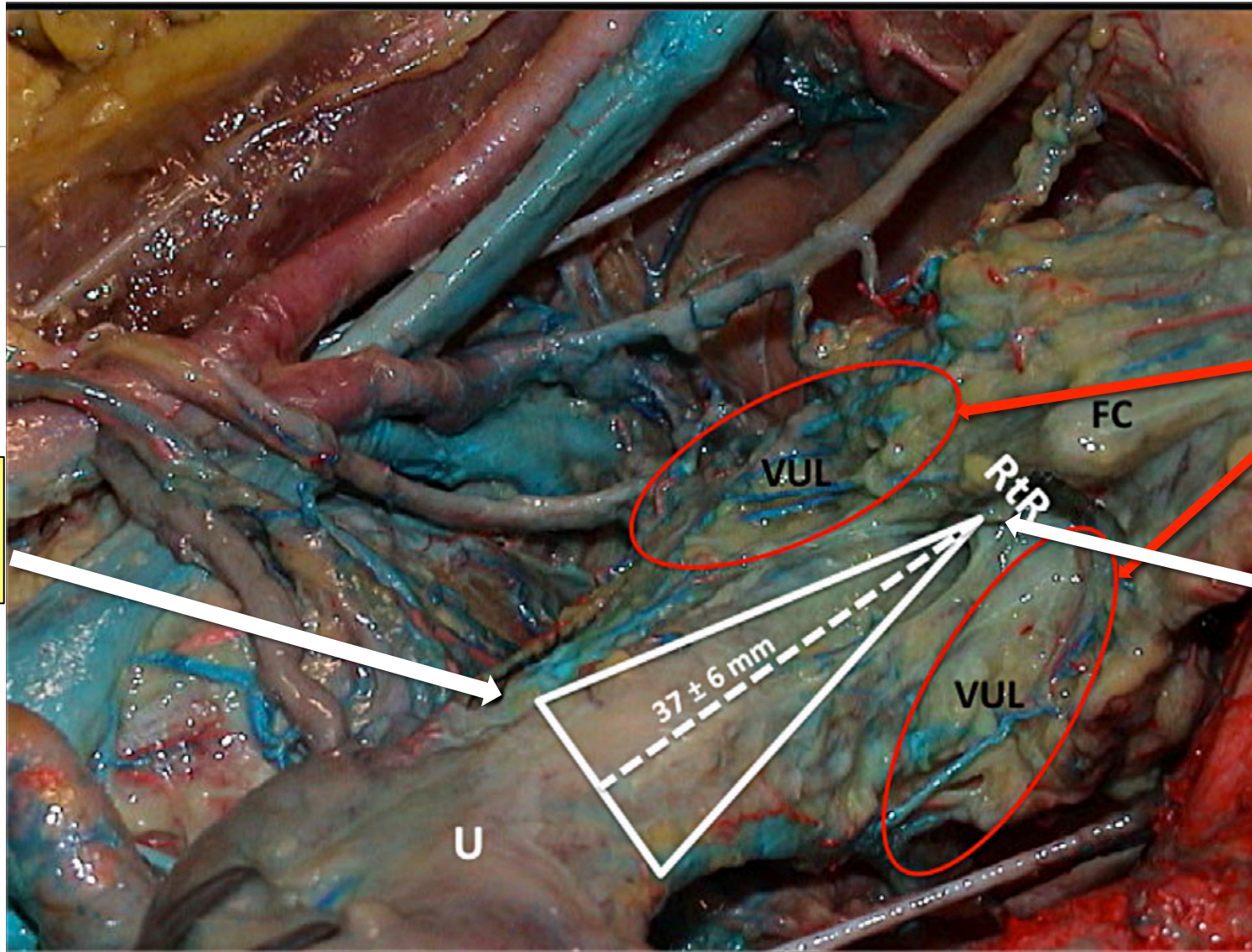


Ercoli 2018 Anatomical Insights Into Sacrocolpopexy for Multicompartment Pelvic Organ Prolapse



Exacoustos 2014 Ultrasound mapping system for the surgical management of deep infiltrating endometriosis

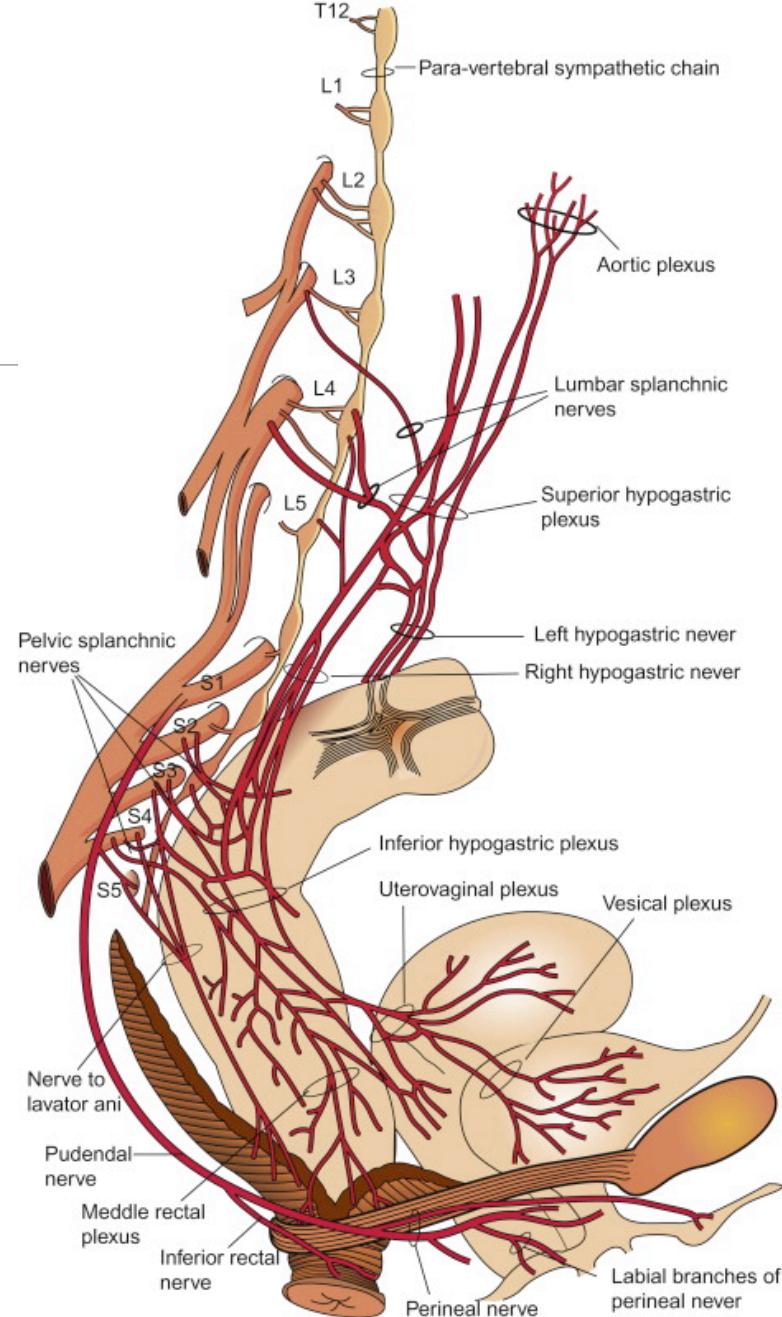
Vesicovaginal
space



Vesicovaginal
ligaments
(bladder pillars)

Trigonum

Fig. 2. Entire pelvis, view from above. Vesicovaginal space. White triangle: vesicovaginal space, dashed line: length of space (mean $\pm$ Standard Deviation). VUL (red circles): superficial layer of Vesico-Uterine Ligament formed by the descending branch of the uterine artery, the superficial vesical vein and the cervicovesical vessels. RtR: Retro-trigonal Region. U, uterus. FC, Foley's Catheter.



Innervation of the pelvic organs and structures

Inferior hypogastric plexus – autonomic innervation

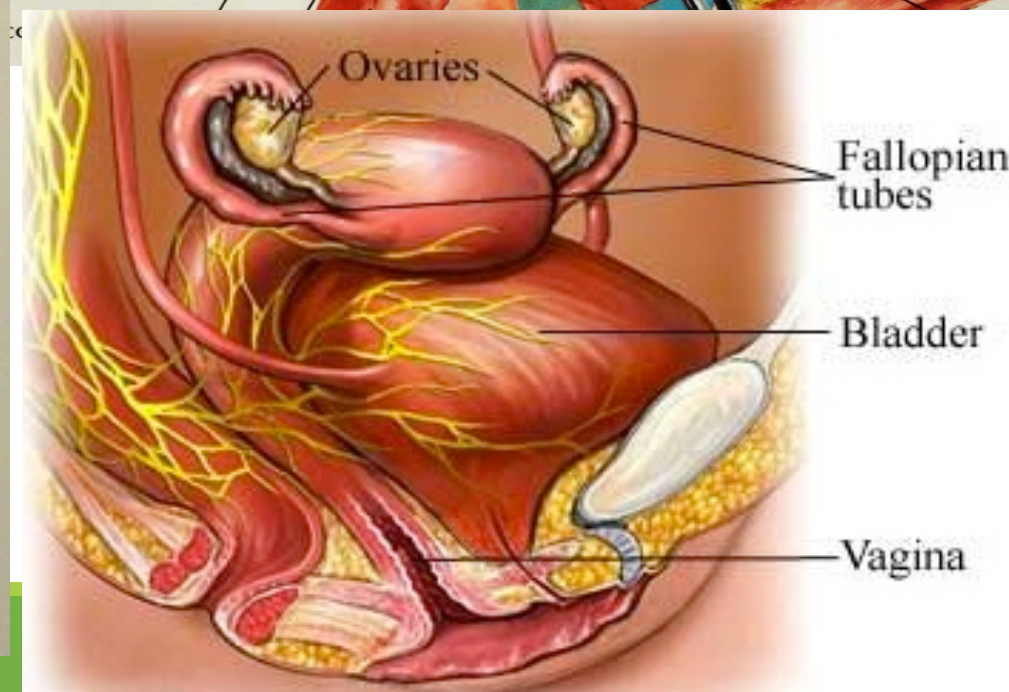
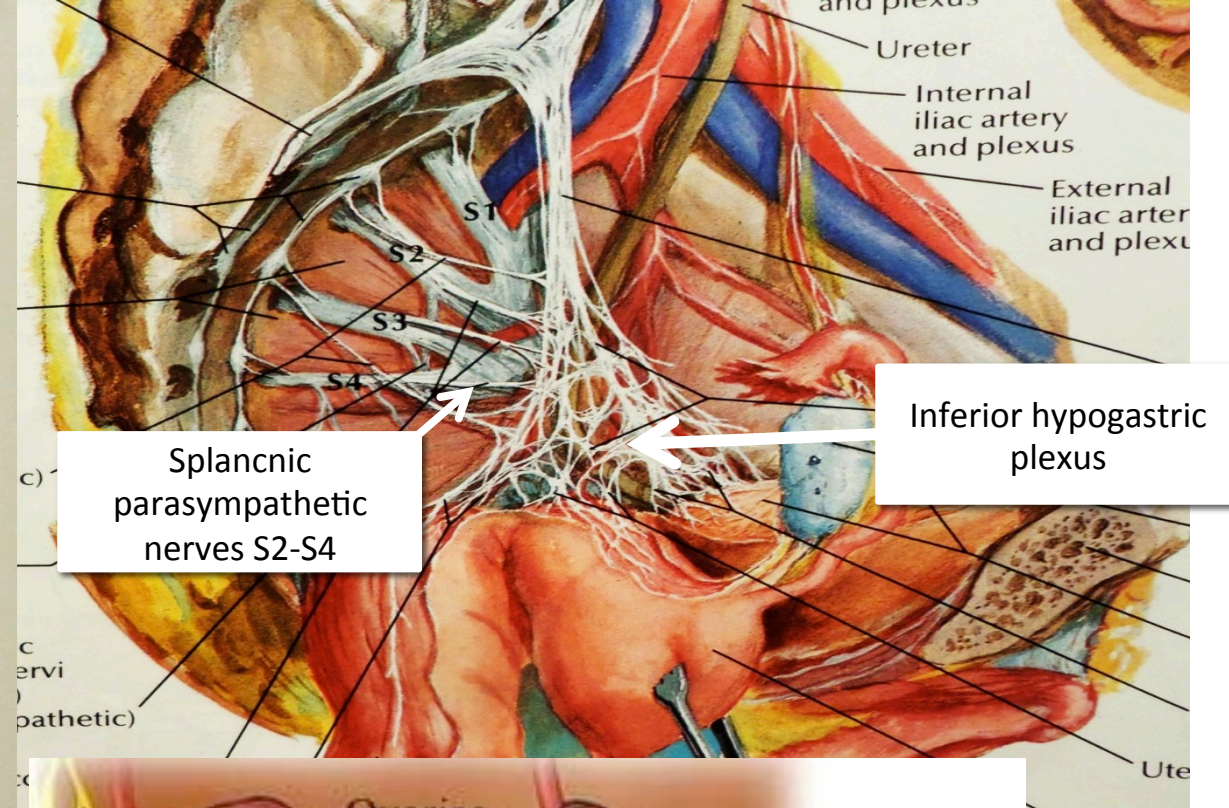
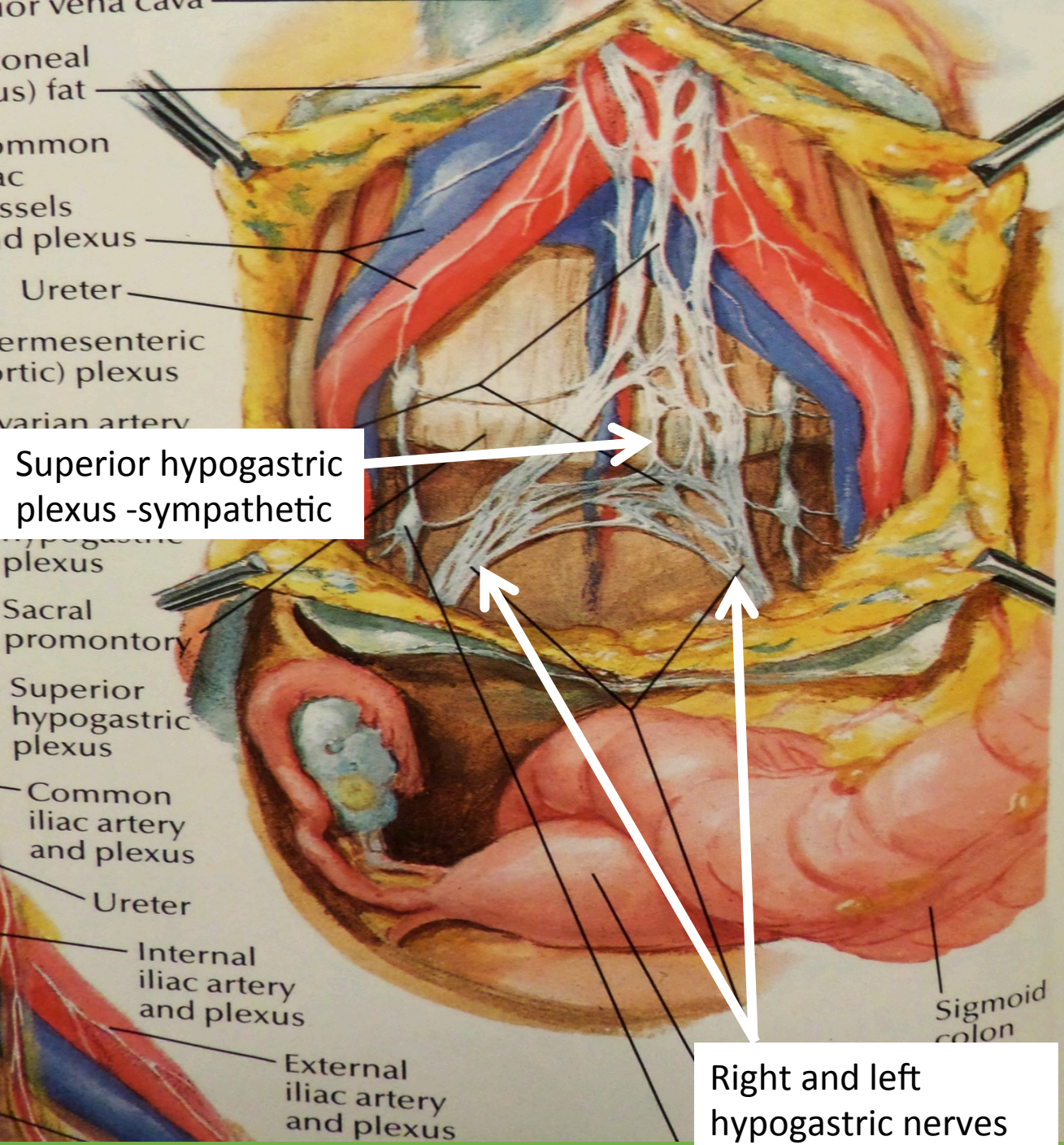
- Uterus
- Bladder
- Upper vagina
- Rectum
- Internal anal sphincter

S3-S5 nerve roots

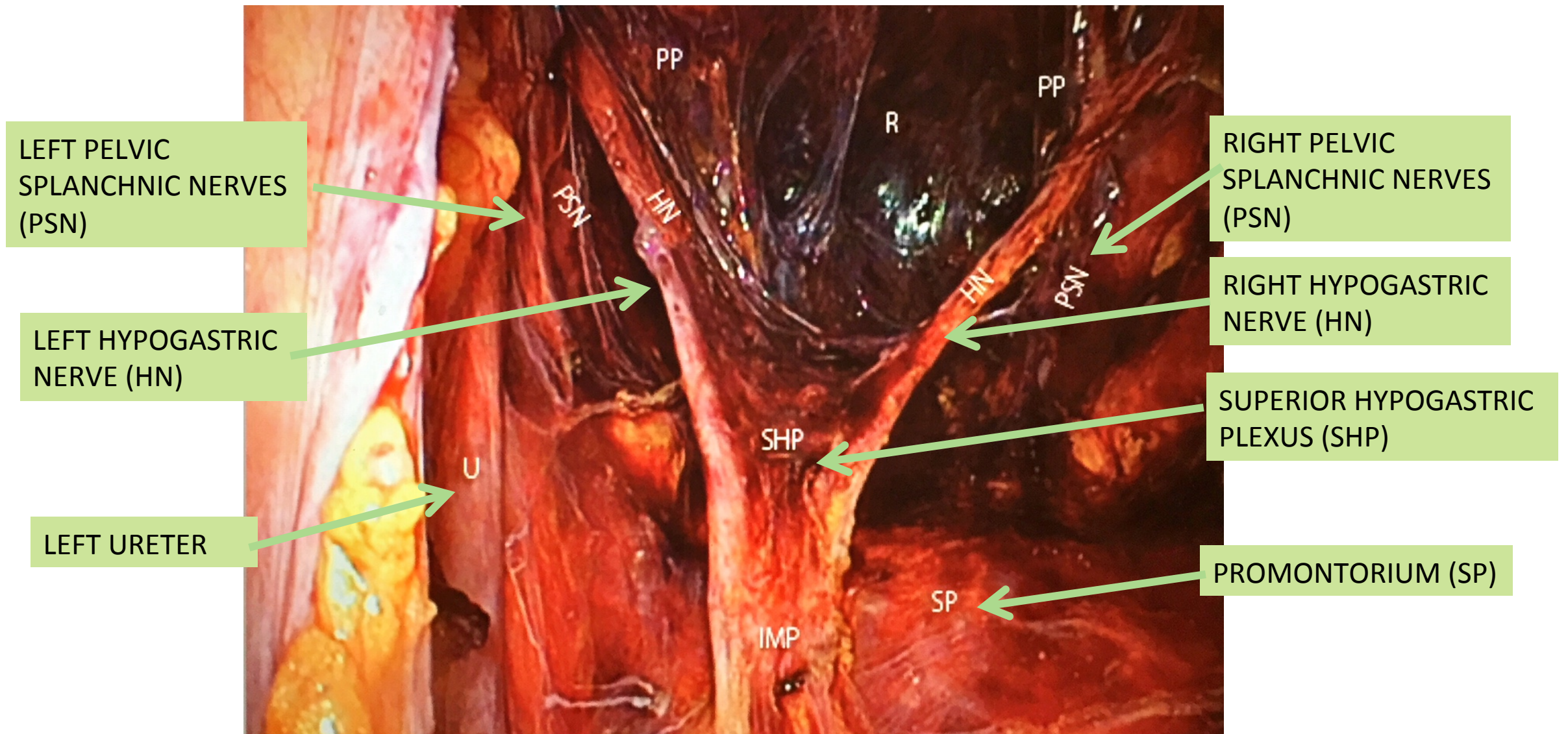
- Pelvic floor muscles

Pudendal nerve S2-S4

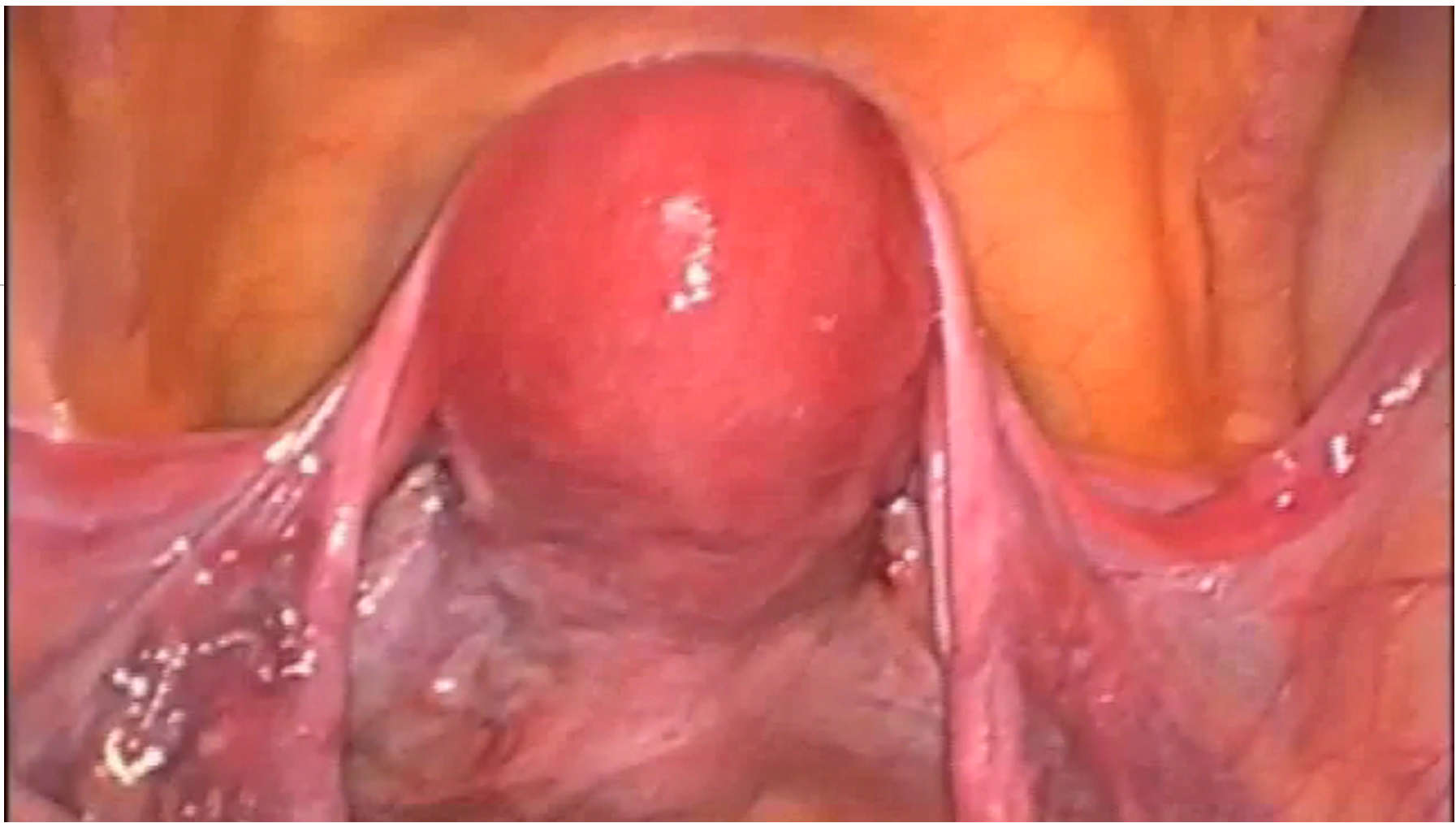
- External anal sphincter
- Anus, perineum, vulva, clitoris



Hypogastric nerves and plexuses – the “floor” of the dissection



Ceccaroni et al: Surgical anatomy of the pelvis. Jaypeebrothers



Sillä sipul!

