



Leids Universitair
Medisch Centrum

Pelvis - Blood vessels

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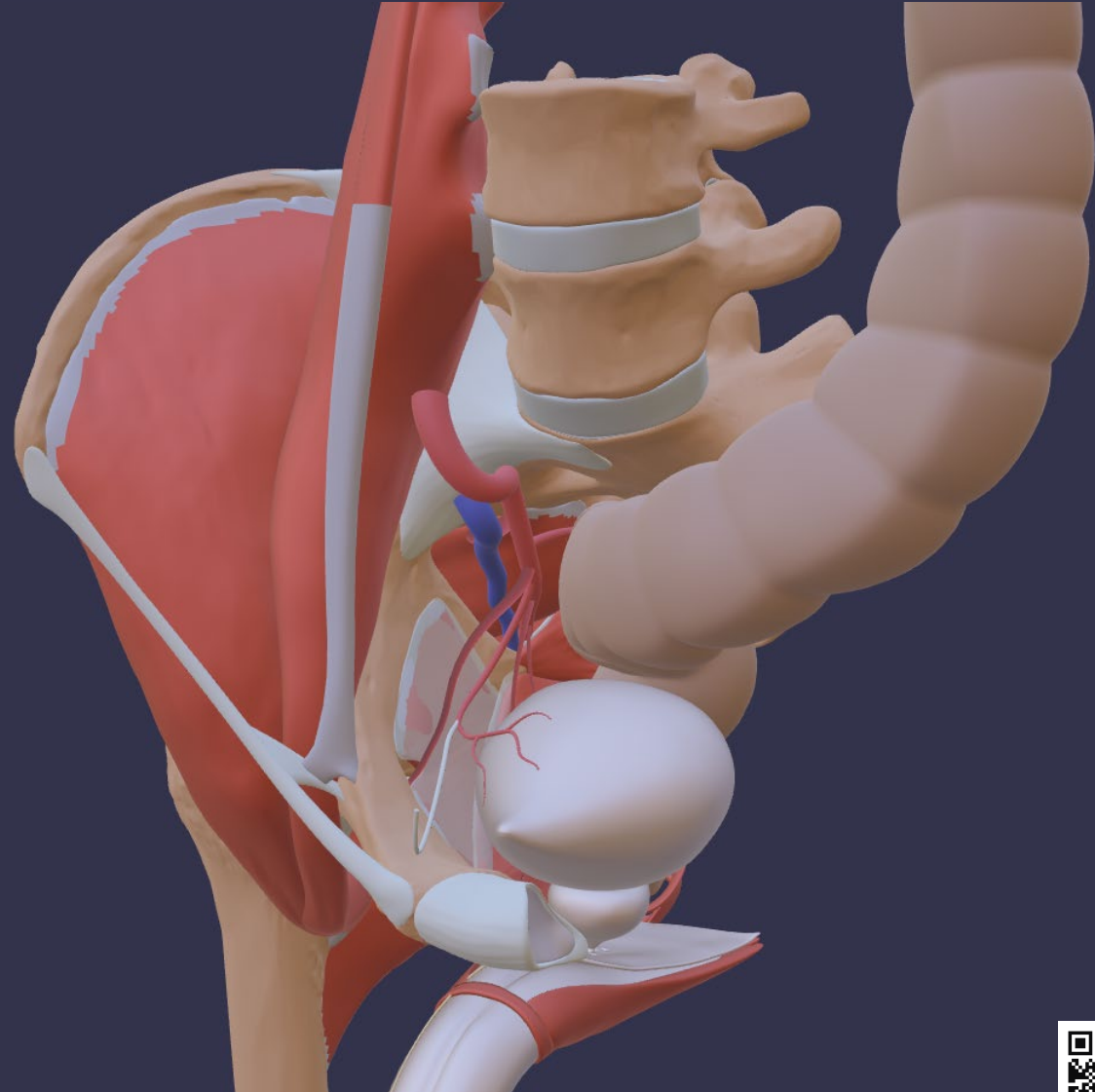
Open anatomical 3D model

Images in this presentation are retrieved from the *Sub model 'Pelvic floor and perineum' (untextured)* by Marco C. DeRuiter, Eungyeol Lee, Daniël Jansma and Paul Gobée (all at LUMC). It is licensed under Creative Commons Attribution ShareAlike (CC BY SA).

<https://anatomytool.org/content/open3danatomy-3d-model-pelvic-floor-and-perineum-english-labels>



This is a sub model of the ***Open Anatomical 3D model***, which was developed by LUMC, UMCU, UM and KU Leuven, with an initial grant of the Dutch Ministry of Education, Culture & Science. It was based on predecessor models BodyParts and Z-Anatomy, which are licensed under Creative Commons Attribution ShareAlike (CC BY SA).



Blood vessels of the pelvis and perineum

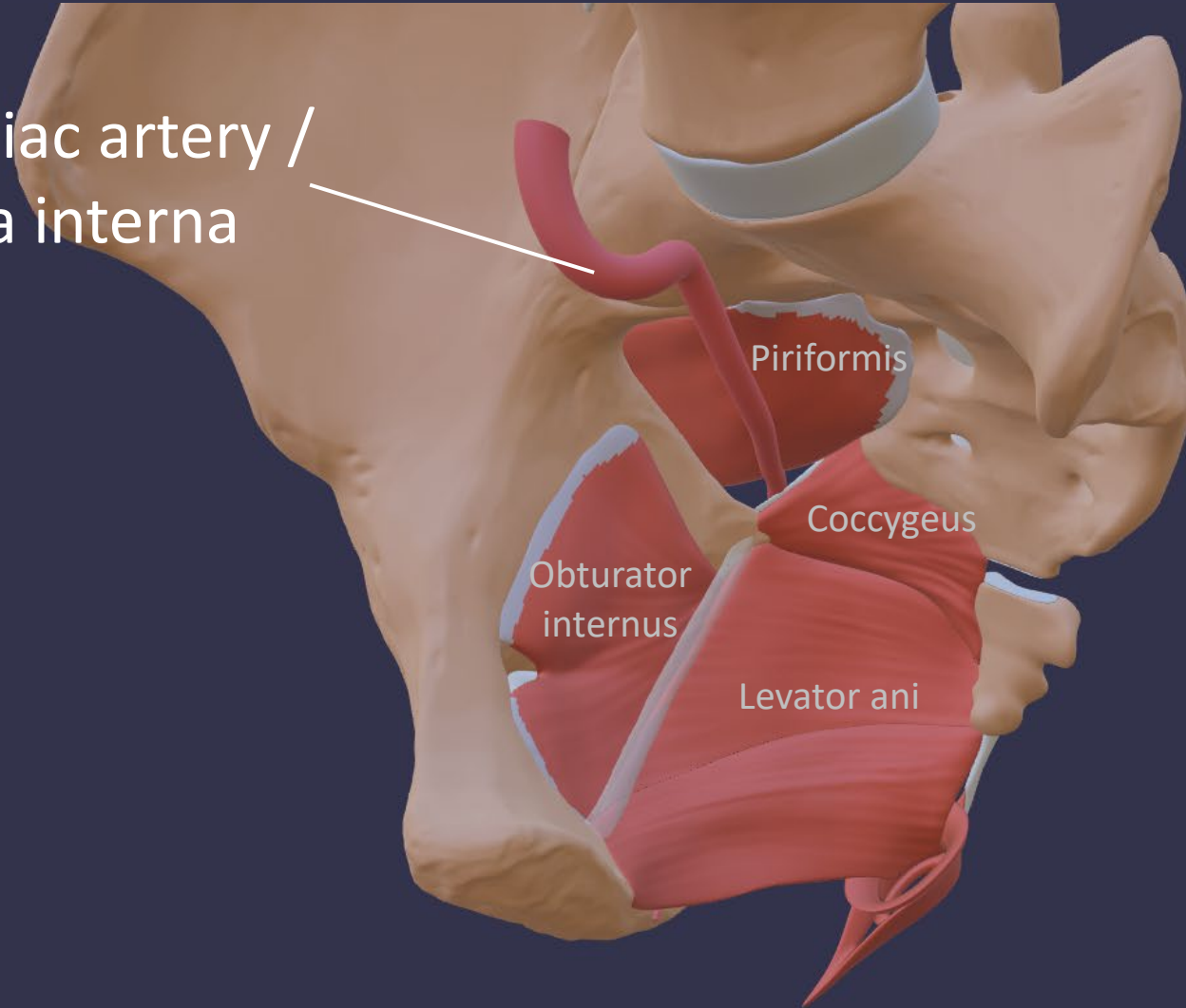
Blood vessels in the pelvis

- Are named according to their destination.
- Order and origin: very variable.



Blood vessels of the pelvis and perineum

Internal iliac artery /
a. iliaca interna



Piriformis

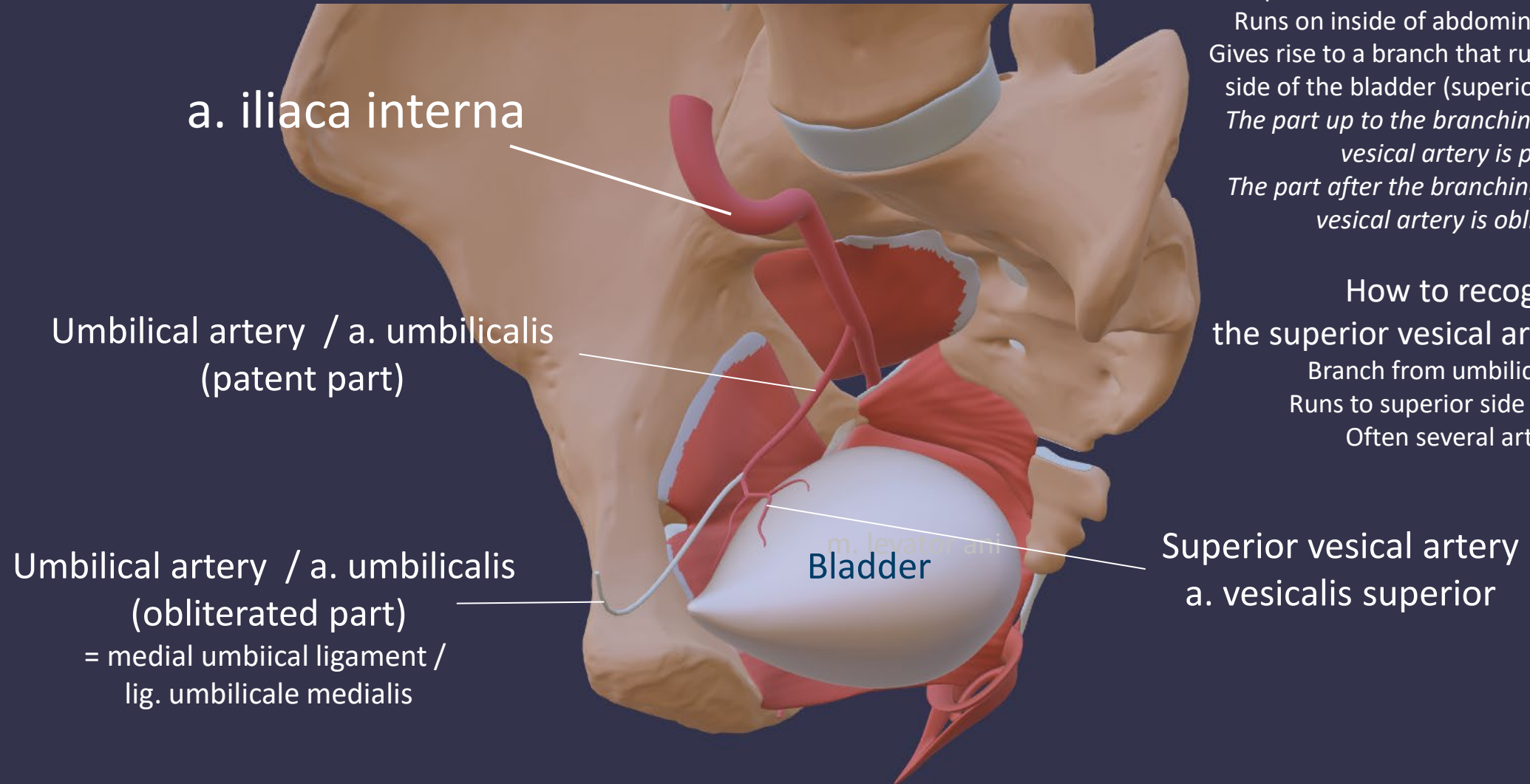
Coccygeus

Obturator
internus

Levator ani



Blood vessels of the pelvis and perineum



How to recognize the umbilical artery?

A proximal branch of internal iliac artery.
Runs on inside of abdominal wall to navel.
Gives rise to a branch that runs to the superior side of the bladder (superior vesical artery).
The part up to the branching of the superior vesical artery is patent.
The part after the branching of the superior vesical artery is obliterated.

How to recognize the superior vesical artery/arteries?

Branch from umbilical artery.
Runs to superior side of bladder.
Often several arteries.

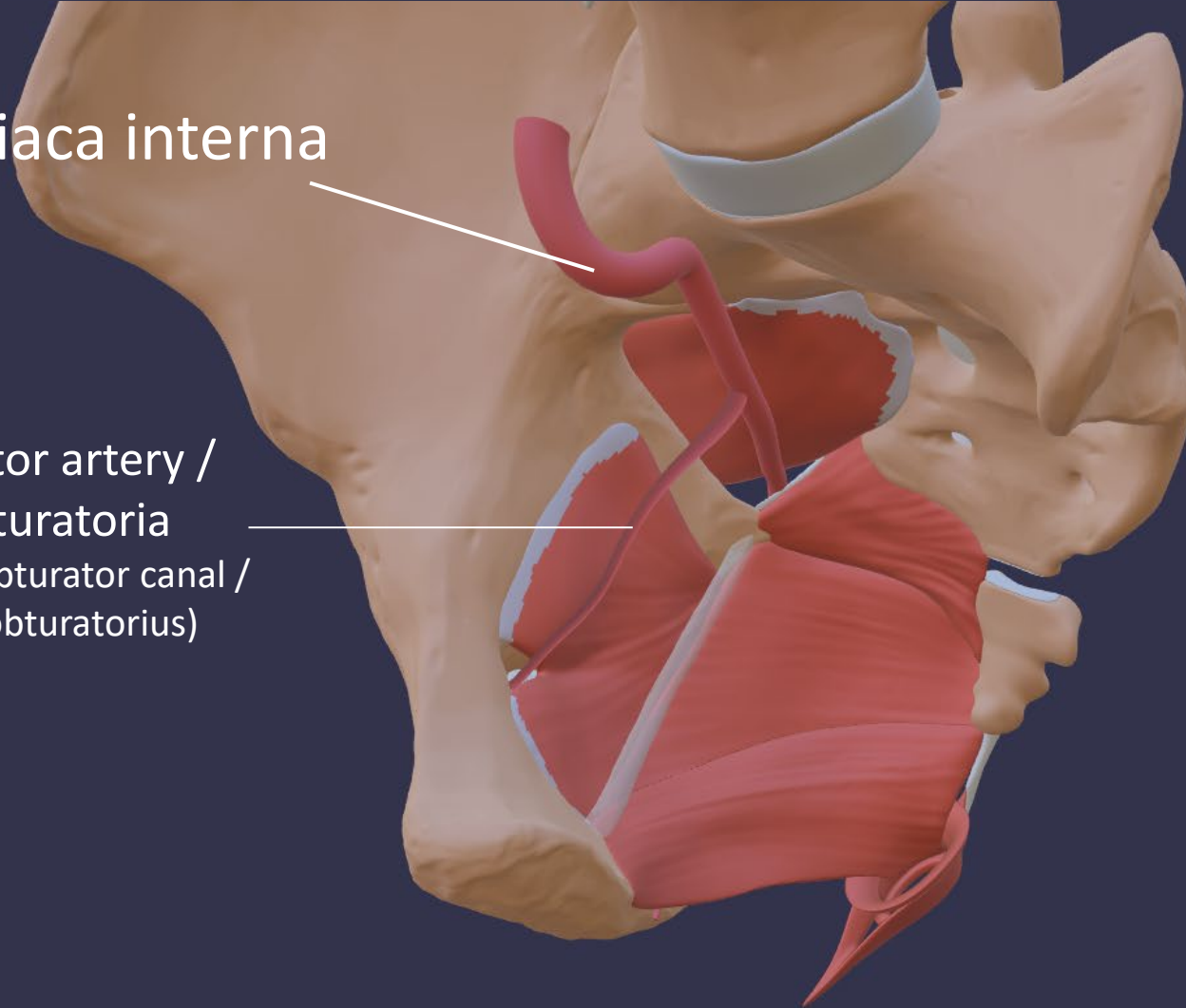


Blood vessels of the pelvis and perineum

How to recognize the obturator artery?
 A proximal branch of internal iliac artery.
 Runs to obturator canal.
 Variant: may instead branch from inferior epigastric artery.

a. iliaca interna

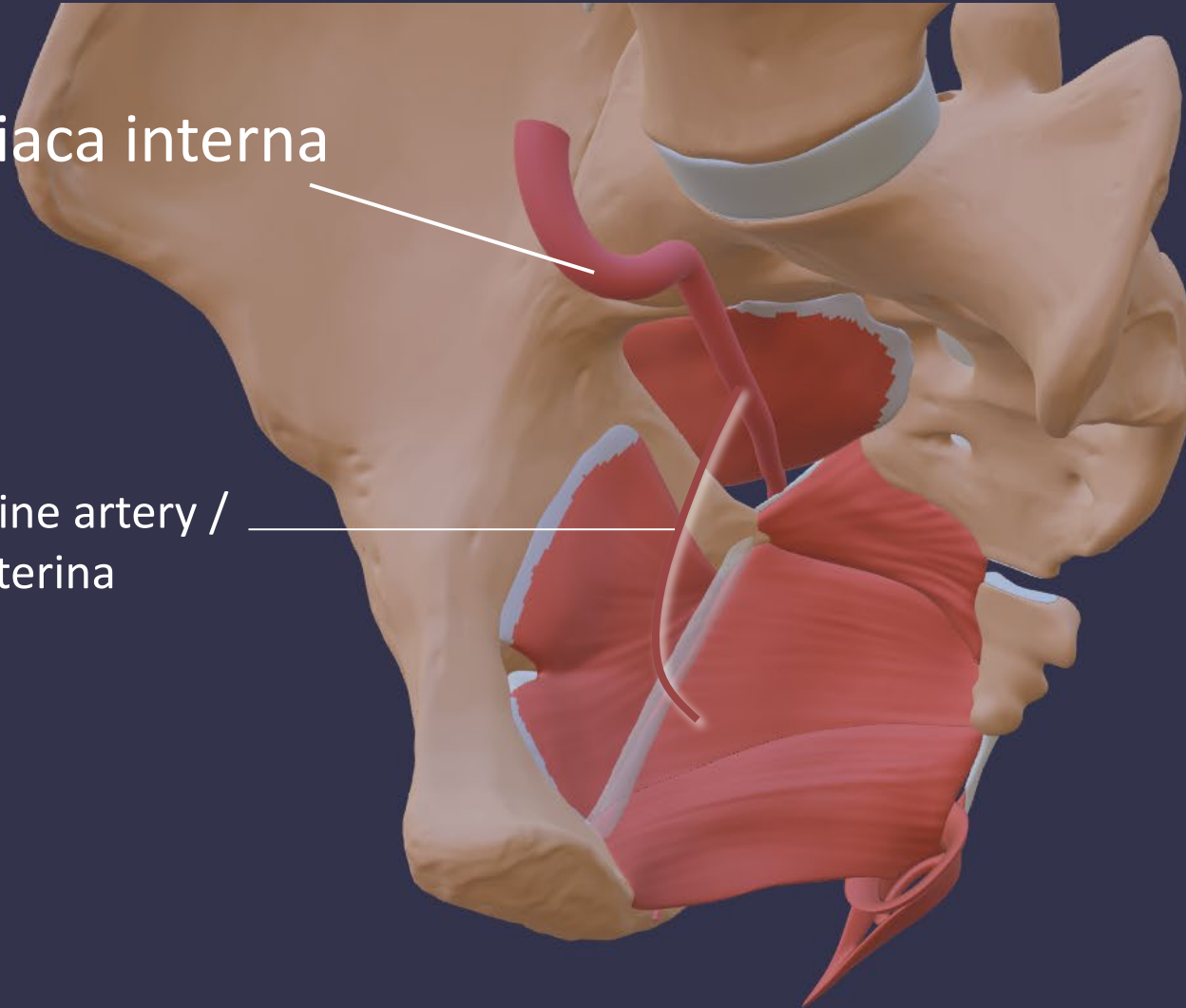
Obturator artery /
 a. obturatoria
 (traverses obturator canal /
 canalis obturatorius)



Blood vessels of the pelvis and perineum

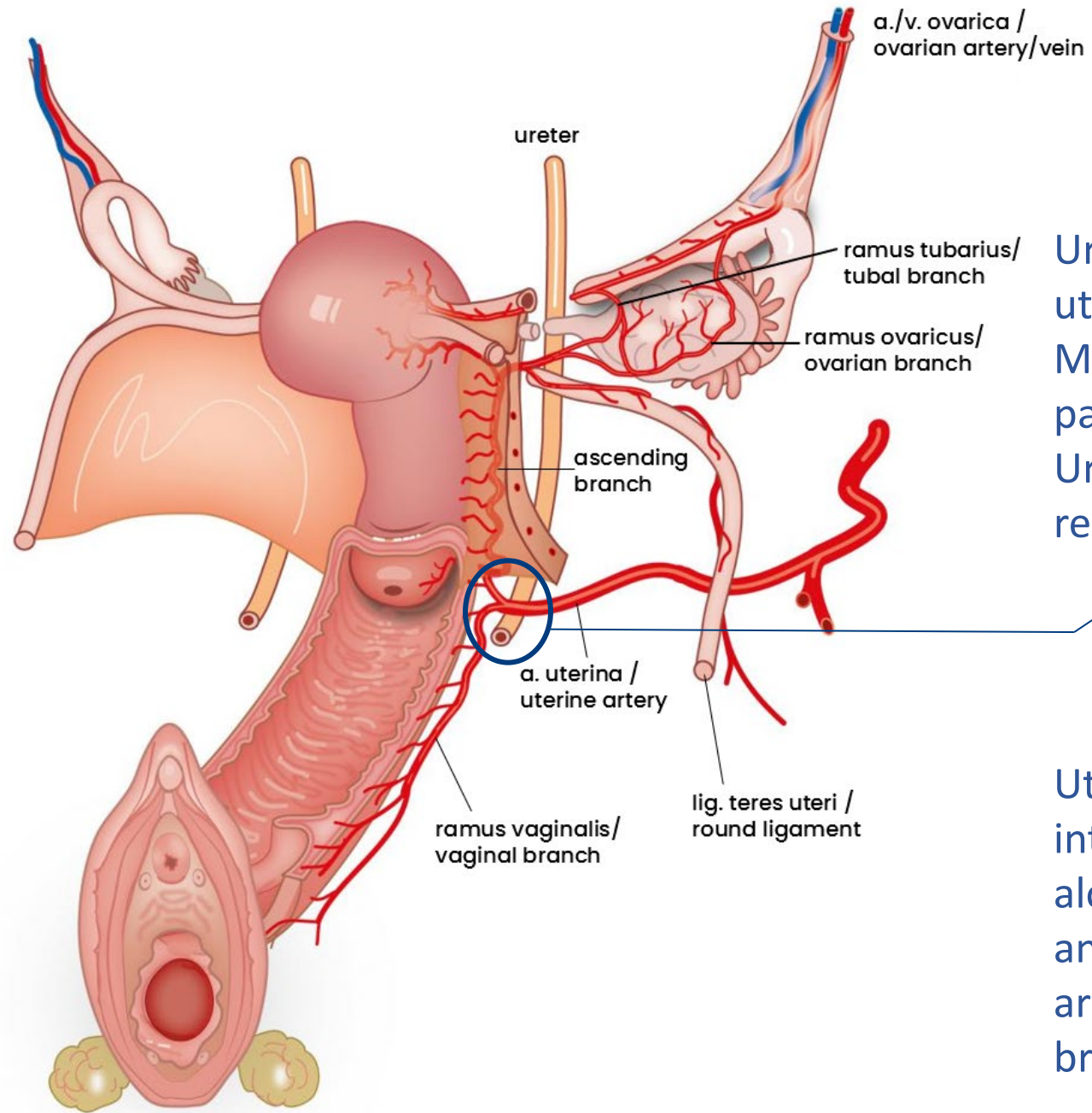
a. iliaca interna

♀ Uterine artery /
a. uterina



How to recognize the uterine artery?
Usually branches after obturator and umbilical arteries.
Only in women, as an additional branch of internal iliac artery.
Runs to the uterine cervix.
Crosses over ureter.





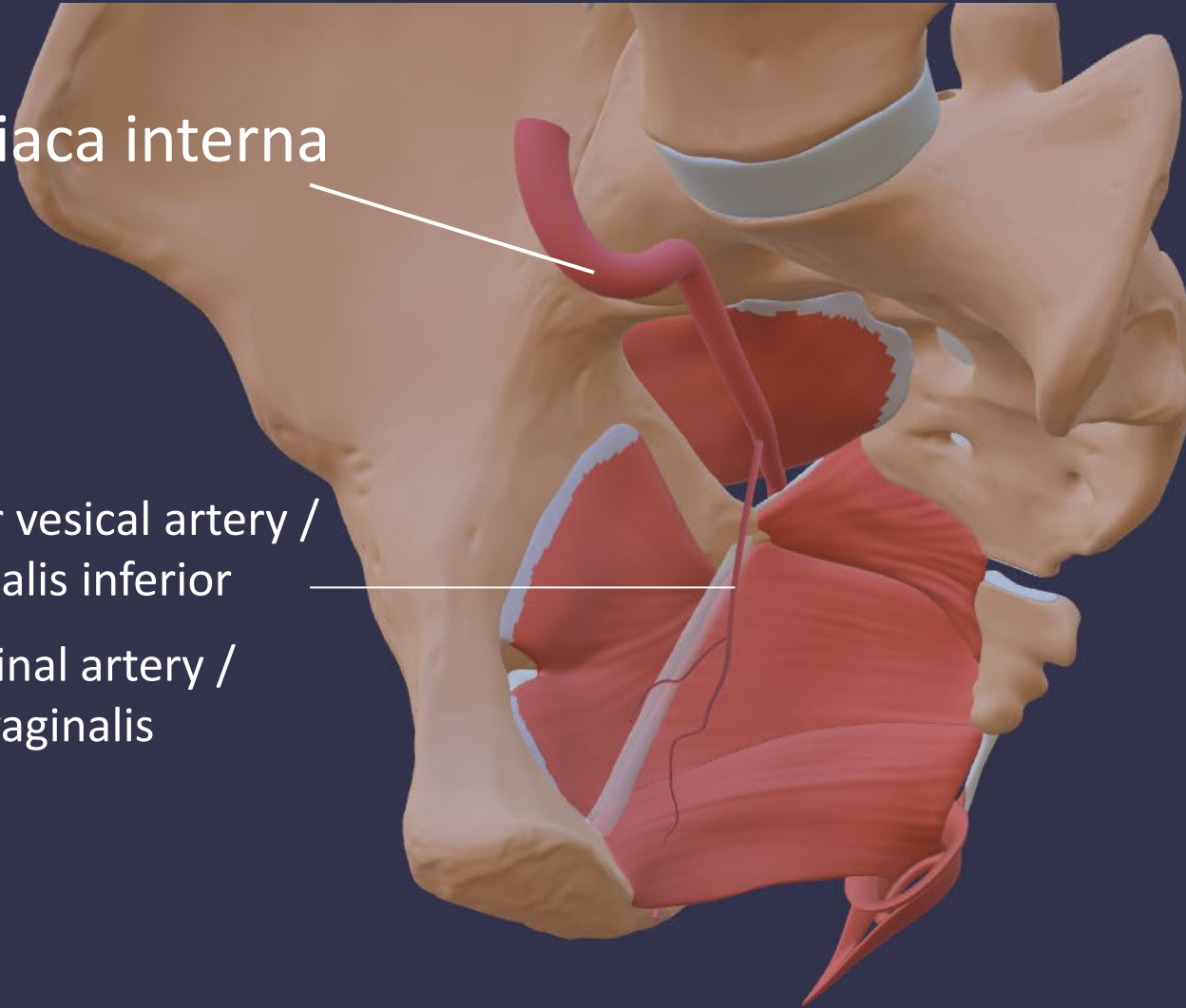
Ureter crosses inferior of uterine artery -
Mnemonic: "the water passes under the bridge".
Ureter is at risk in uterine removal.

Uterine artery branches into an ascending branch along uterus (that anastomoses with ovarian artery) and a vaginal branch.

Blood vessels of the pelvis and perineum

a. iliaca interna

- ♂ Inferior vesical artery /
a. vesicalis inferior
- ♀ Vaginal artery /
a. vaginalis



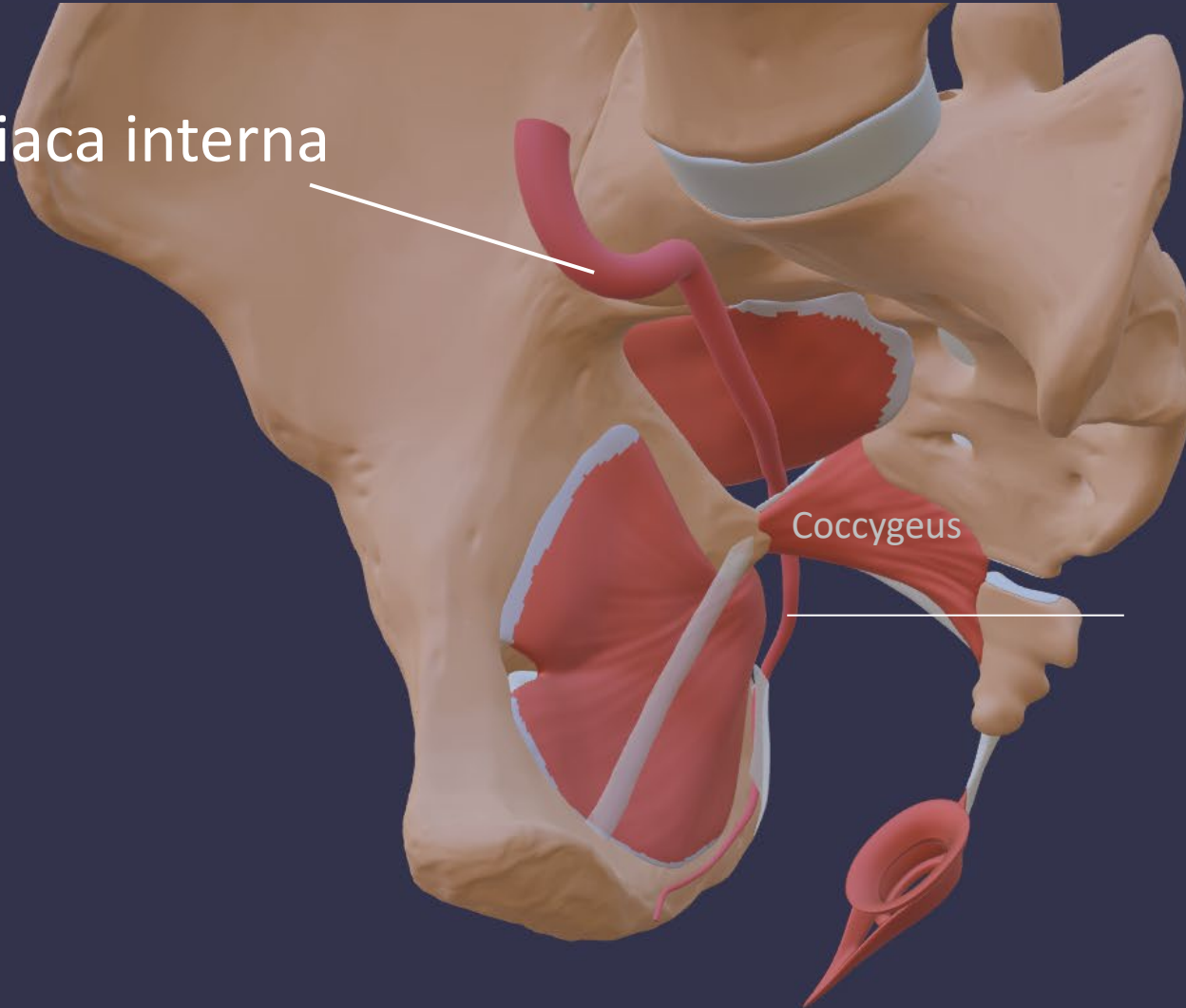
How to recognize the inferior vesical artery?
Branches after obturator and umbilical (and uterine) arteries.
Runs to inferior side of bladder and prostate.

How to recognize the vaginal artery?
In females often replaces inferior vesical artery.
May arise from the uterine artery.
Gives several branches to vagina.



Blood vessels of the pelvis and perineum

a. iliaca interna



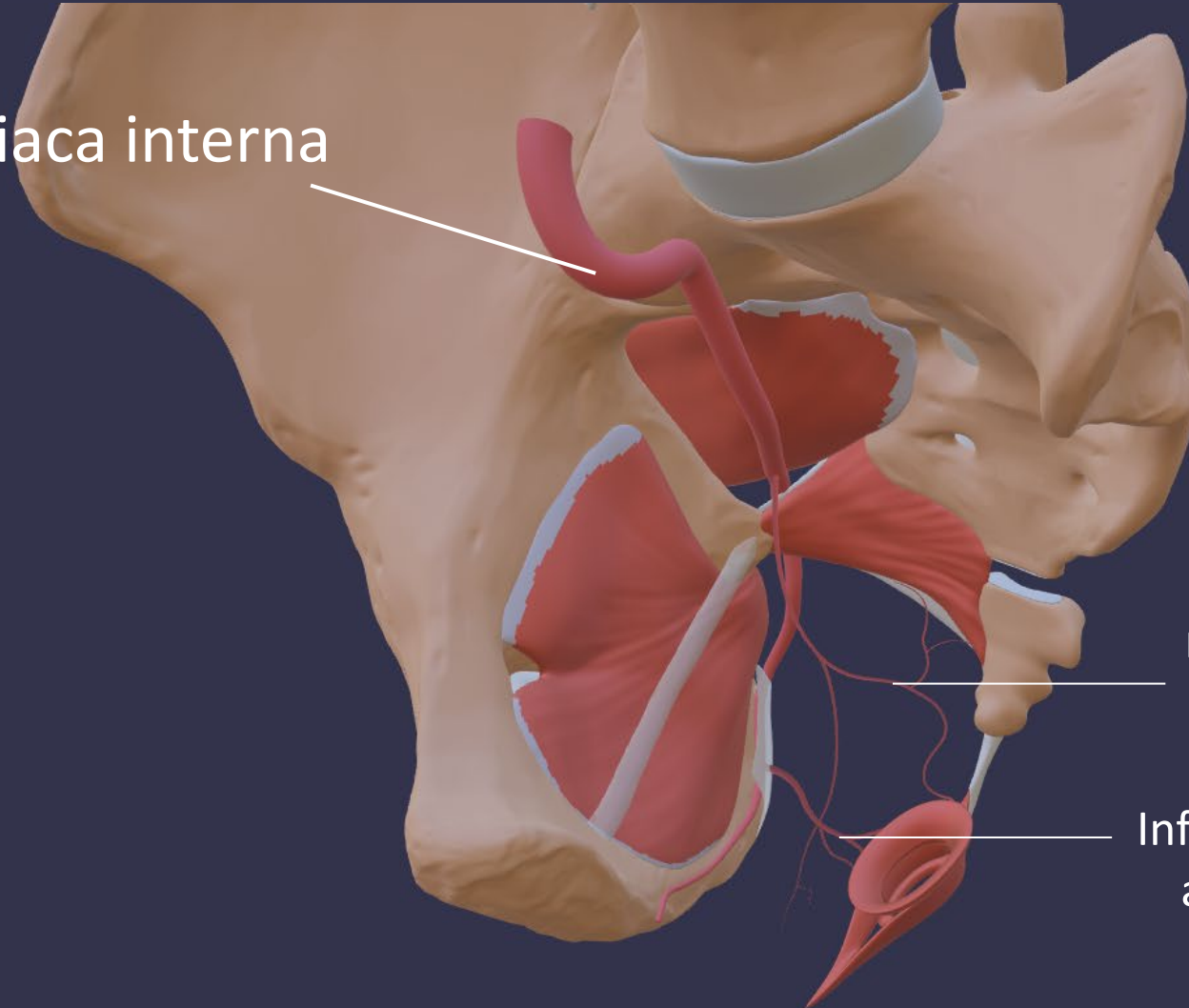
How to recognize the internal pudendal artery?
 Exits pelvic cavity posterior to coccygeus muscle (through greater sciatic foramen). Then passes through lesser sciatic foramen to perineum.
 Traverses pudendal canal (Alcock's). Supplies perineum and external genitals.

Internal pudendal artery /
 a. pudenda interna



Blood vessels of the pelvis and perineum

a. iliaca interna



How to recognize
the middle rectal artery?

Present in ~10% * or small.

If present runs to lower half of rectum.*

*Ayoub SF. 1978. Arterial supply to the human rectum.
Acta Anat. <https://doi.org/10.1159/000144913>

How to recognize
the inferior rectal artery?

Arises from internal pudendal artery.

Runs to anal canal.

Medial rectal artery /
a. rectalis media

Inferior rectal artery /
a. rectalis inferior

