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Model of the Urogenital Tract in a Female Dog
Review of Caudal Abdominal Topography & Application to Ovariohysterectomy

Objectives:

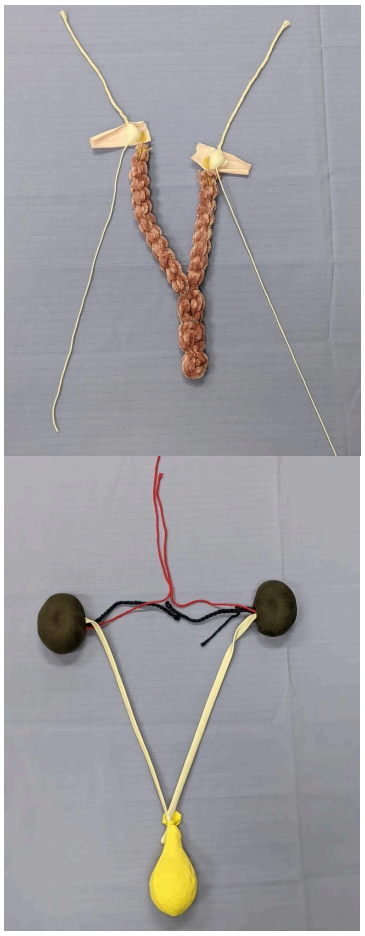
1. Identify each bolded term on the drawing and as model components, including organs, mesenteries, and vessels.
2. Build a model of the urogenital tract of a female dog, including the collateral circulation to the ovaries and uterus.
3. Identify the proximity of each ureter to the ovarian pedicle and the proximity of the ureters to the uterine body.
4. Describe the topographic relationships between the caudal gastrointestinal tract, the urinary tract, and the female genital tract.
5. Apply your knowledge of anatomy of the female urogenital tract to the relevant structures encountered during an ovariohysterectomy (OHE).

Instructions: Read through these instructions carefully. Understand each step before proceeding with the action. Refer to the video, as needed.

Review the Caudal Abdominal Organ & Vessel Image.

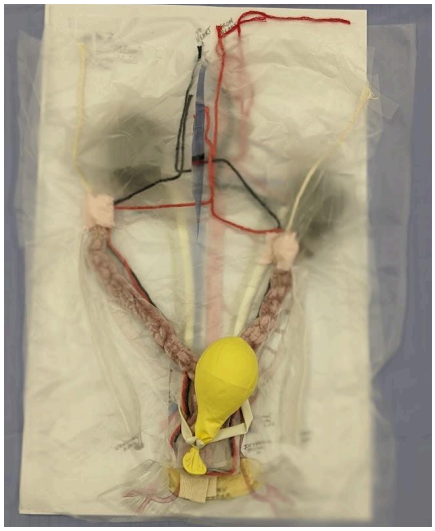
Build a Model of the Urogenital Tract in a Female Dog:
Note: Strings for arteries and veins may be longer than needed. The excess string can be placed onto the abdominal aorta or caudal vena cava, as appropriate.

1. Identify model components:
    - ☐ **Descending colon (caudal portion)**
    - ☐ **Urinary tract & vasculature:**
        - ☐ **Kidneys**
        - ☐ **Ureters**
        - ☐ **Urinary bladder**
        - ☐ **Renal arteries**
        - ☐ **Renal veins with left ovarian vein**
    - ☐ **Arterial & venous blood supply to uterus and ovaries.**
    - ☐ **Female reproductive tract (abdominal components):**
        - ☐ **Suspensory ligaments of the ovary**
        - ☐ **Ovarian bursae**
        - ☐ **Ovaries**
        - ☐ **Proper ligaments of the ovary**
        - ☐ **Round ligaments of the uterus**
        - ☐ **Uterine horns**
        - ☐ **Uterine body**



2. Tear off a piece of Press'nSeal® and place it sticky side UP onto the image.
3. Place the urinary tract and associated vasculature, using the image to guide your placement.
4. Tear off a second piece of Press'nSeal® and place it sticky side DOWN over the kidneys and cranial aspect of the ureters to make them retroperitoneal.
5. Set aside the urinary tract & vasculature, which are now coated in Press'nSeal.
6. Tear off a third piece of Press'nSeal® and place it sticky side UP onto the image.
7. Place the red and blue strings to mimic the arterial supply from the aorta to the uterus and ovaries and the venous drainage of these organs back to the caudal vena cava.
8. Place the abdominal components of the female reproductive tract on the Press'nSeal®, using the image to guide your placement.
   DO NOT place the round ligament in place at this time, instead direct these ligaments straight off to the side (lateral).
9. Tear off a fourth piece of Press'nSeal® and place it down over the ovaries, uterus, and vessels. Fold the material representing the ovarian bursae over the ovaries and then press the Press'nSeal® down firmly. Portions of this piece of Press'nSeal® would represent the broad ligament.
10. Cut the Press'nSeal® at the level of the ovary where the round ligament arises on both the left and right sides.
11. Tear off a 6-inch strip of Press'nSeal® and fold it partially over one of the round ligaments. Press them in place onto the layer of Press'nSeal® below them, using the image to guide your placement of the round ligament toward the inguinal canals. Repeat on the opposite side.
12. Use scissors to cut the Press'nSeal® along the uterine body laterally. Also cut the Press'nSeal® down the midline, starting cranially, and proceeding to the level of the renal arteries and veins.
13. Remove the female reproductive tract components from the image.
14. Replace the urinary tract & vasculature components onto the image.
15. Fold the piece of cloth representing the caudal descending colon in half lengthwise.
16. Place the caudal descending colon onto the image. It will lie dorsal to the uterine body and bladder.
17. Place the female reproductive components on top of the urinary tract & vasculature components, inserting the uterine body below and in between the ureters, so the urinary bladder is resting on top of (ventral to) the uterus. Note that the uterus is ventral to the descending colon.
18. Tape down the suspensory ligaments to the lateral body wall and the "mouth" of the balloon, which represents the urethra, so that the bladder is positioned appropriately.

Congratulations! You have completed building the model.



Now, please consider the following questions regarding the structures encountered during an ovariohysterectomy:

1. How can you use the topography of the caudal abdominal organs to find the uterine horns?
2. Where is each proper ligament of the ovary?
3. What is the cranial attachment of the suspensory ligament of the ovary?

4. Why are the ovaries obscured from the surgeon's view and must be palpated to ensure their complete removal?
5. Where are the ovarian pedicles? What vessels are found within each pedicle?
6. What structure must be disrupted to ligate each ovarian pedicle?
7. Where is each ureter in relation to the ovarian pedicle on the same side?
8. Where are the round ligaments of the uterus?
9. At the level of the uterine body, where are the uterine arteries and veins?
10. Where are the ureters in relation to the uterine body?

The bolded terms found on the Caudal Abdominal Organ & Vessel Image:

- □ **Adrenal glands**
- □ **Kidneys**
- □ **Ureters**
- □ **Urinary bladder**
- □ **Descending colon (caudal portion)**
- □ **Suspensory ligaments of the ovary**
- □ **Proper ligaments of the ovary**
- □ **Round ligaments of the uterus**
- □ **Vaginal rings**
- □ **Broad ligament**
  - □ **Mesovarium**
  - □ **Mesometrium**
- □ **Ovaries**
- □ **Uterine horns**
- □ **Uterine body**
- □ **Cervix**
- □ **Abdominal aorta**
- □ **Caudal vena cava**
- □ **Renal arteries**
- □ **Renal veins**
- □ **Ovarian arteries**
- □ **Ovarian veins**
- □ **Caudal mesenteric artery**
- □ **External iliac arteries**
- □ **Internal iliac arteries**
- □ **Caudal gluteal arteries**
- □ **Internal pudendal arteries**
- □ **Vaginal arteries**
- □ **Uterine arteries**

Review the flow of blood from the heart to the ovaries and to the uterus and back to the heart, including the collateral circulation.
