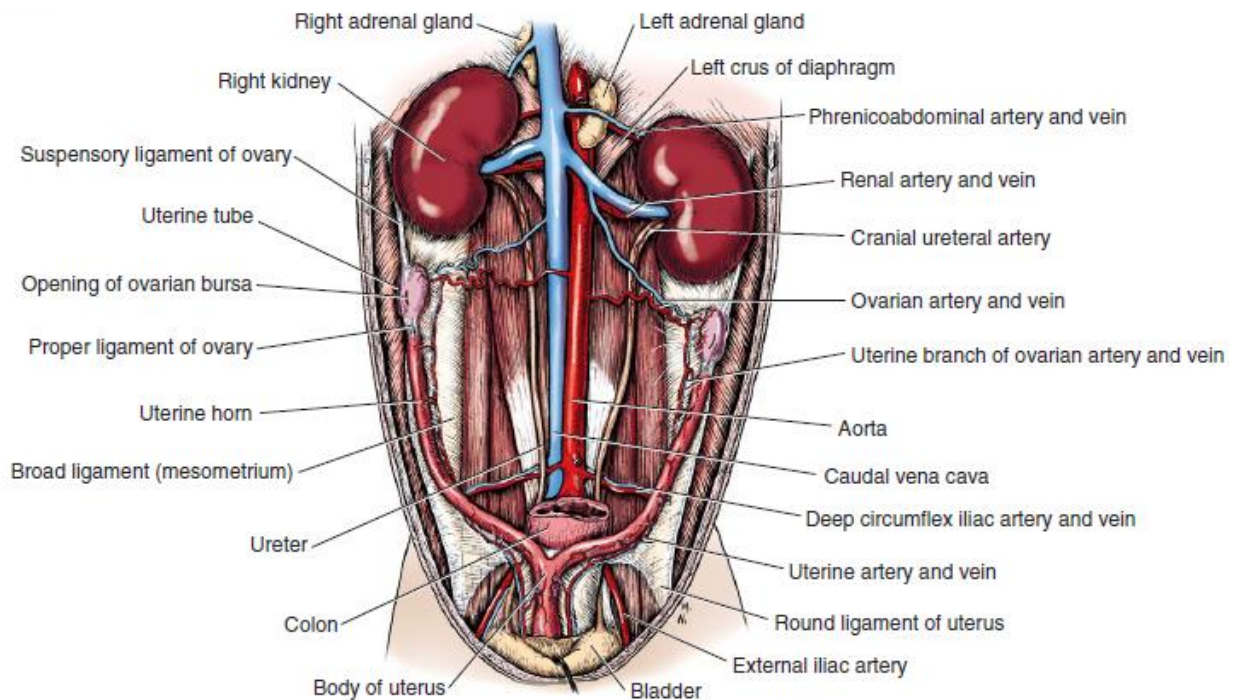


# Ovaries and Uterus

## Anatomy

### *Ovaries and Ligaments*

In dogs and cats, the ovaries are located caudal to the kidneys.



The left ovary is larger than the right.

The cranial portion of the **broad ligament**, or mesovarium, attaches the ovary to the body wall dorsolaterally and contains the utero-ovarian vessels. The mesovarium is formed by a double fold of peritoneum. Cranially, it encloses the **suspensory ligament**, which attaches to the last rib. Caudally, the **suspensory ligament** is continued by the proper ligament, which attaches to the cranial end of each uterine horn.

The **proper ligament**, in turn, is continuous with the round ligament of the uterus.

Paired **ovarian arteries** arise from the aorta caudal to the renal arteries.

## Uterus

The Y-shaped uterus consists of a neck, body, and two horns. The nonpregnant uterine size varies considerably among species but, more importantly, with previous pregnancies, stage of estrus cycle, and age.

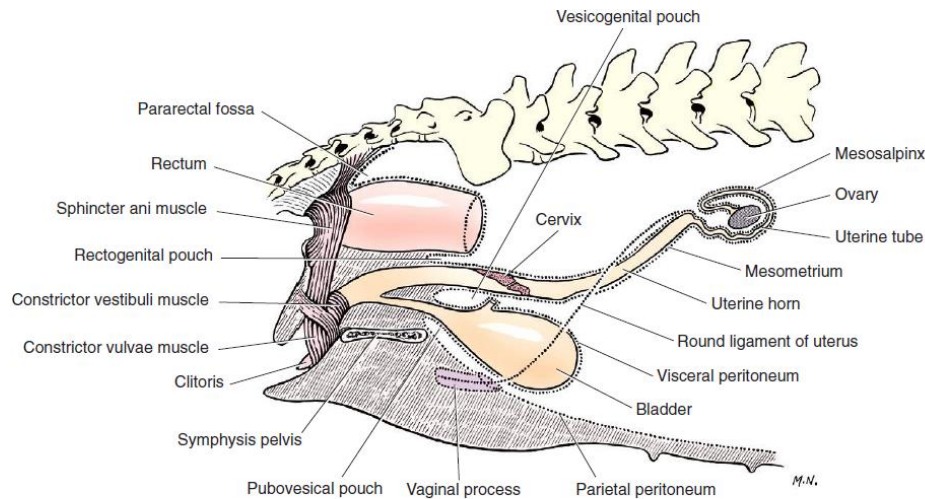


Figure 109-2 Diagram of the peritoneal reflections and the female genitalia of the dog. (From Evans HE, de Lahunta A: Miller's anatomy of the dog, ed 4, St Louis, 2013, Saunders/Elsevier.)

## DISORDERS OF THE OVARY

- 1- Ovarian Neoplasia
- 2- Ovarian Cysts

### Diagnostic Techniques

- 1- Imaging
- 2- *Clinical Pathologic Parameters in Ovarian Disease*
- 3- *Surgical Exploration*

## DISORDERS OF THE UTERUS

- 1- Pyometra
- 2- Metritis
- 3- Uterine Torsion
- 4- Uterine Prolapse
- 5- Uterine Rupture
- 6- Dystocia
- 7- Cesarean Section
- 8- Uterine Neoplasia.

### Diagnostic Techniques

- 1- *Abdominal Palpation*
- 2- *Imaging*

## Ovariohysterectomy

**Indications** for ovariohysterectomy include elective sterilization; uterine disease; and adjunctive treatment for disorders negatively affected by an intact status, including mammary neoplasia, diabetes mellitus, and epilepsy.

### Open Surgical

- 1- The abdomen is surgically prepared from 4 cm cranial to xiphoid to 4 cm caudal to the cranial pubic brim to allow the spay incision to be extended readily as needed on the ventral midline.
- 2- The uterus is located by means of an ovariohysterectomy hook or index finger. A hemostatic forceps is applied to the proper ligament and used to mark and manipulate the ovary.

- 3- The ovary is grasped with fingers and mild, caudomedial traction is applied to the suspensory ligament. Primary traction is not applied to the hemostatic forceps because the proper ligament may tear.
- 4- Using a three-clamp technique, the first forceps is applied across the entire mesovarium (cranial to the broad ligament defect) and as far dorsally as possible (nearest to the aorta). The second clamp is placed 10 to 20 mm distal to the first and the third just distal (ventral) to the second, thus closest to the ovary. Alternatively, it can be placed across the mesosalpinx and ovarian-uterine vessels at the level of the proper ligament if there is not enough available space proximal to the ovary for a third clamp.
- 5- An encircling ligature of 0 to 3-0 monofilament absorbable suture is placed ventral to the first Carmalt forceps. The suture size is based on the pedicle diameter.
- 6- The ovarian pedicle is transected distal to the second clamp and proximal to the third clamp or ovary (whichever is closest to the second clamp), with care taken to avoid transection of the ovary.
- 7- uterine body ligation is performed 0.5 to 1 cm below (caudal to) the uterine bifurcation. If the uterine body is small, two encircling ligatures are applied. In dogs, the uterine body is double ligated just cranial to the cervix, with the suture pattern based on the uterine body size.
- 8- one transfixing-encircling or two encircling ligatures are placed with 2 to 5 mm distance between. For transfixation, the needle is passed through the uterine body lumen point first, and one square knot (two throws) is applied over the right or left sides uterine vessel.
- 9- The uterine body is transected 5 mm cranial to the most cranial ligature. A hemostatic forceps is applied across the uterine body or horns just cranial to the proposed transaction site to hinder backflow from the uterine lumen or vessels.
- 10- After the uterus and ovaries have been removed from the abdominal cavity, each gutter is inspected for hemorrhage before closure.
- 11- The linea alba, subcutis, and skin are closed in separate layers, with care taken to include substantial bites of external rectus fascia in the linea closure while limiting muscle inclusion.

## Ovariectomy

### Open Technique

During ovariectomy, a midline incision, localization of the ovary, and ligation of the ovarian vessels proceed as described above for ovariohysterectomy. In addition, the uterine artery and vein are ligated and transected at the level of the proper ligament, immediately cranial to the uterine horn.

