

Spay and Neuter Procedure Basics

CAT NEUTER

- Double scrotal incision over most ventral aspect.
- “Double Pop” technique: Remove the testicle from the scrotum (pop 1) and then apply gentle caudal traction while simultaneously stripping the spermatic cord of fascia (pop 2).
- Instrument tie: Hold the testicle in your left hand and reflect it away from you. With your right hand, hold the curved mosquitoes with the tip pointed towards the abdomen and the curve towards you. Move the tip of the hemostat behind the cranial aspect of the spermatic cord, then rotate the hemostat clockwise until the tip of the hemostat is facing away from you. Then open the hemostats and trap the cord in the open hemostat.
- Incisions heal via second intention.

CAT SPAY

Step ONE: Ventral Midline Incision

- Make a ventral midline incision through the skin halfway between the umbilicus and the brim of the pelvis.
- Resect subcutaneous tissue off the linea alba.
- If there is mammary development, blunt dissection is the best way to clear the linea alba.

Step TWO: Uterine Horn Recovery

- Look for the right horn first; the left may be trapped by the colon.
- In young cats the uterus will be more medial
- Lift up on body wall with spay hook; Left index finger to retract omentum and intestines out of way; spay hook will be facing body wall—go lateral, not caudal by body wall.
- Rotate the spay hook until the hook is facing medially and slowly sweep the gutter, moving both medially and ventrally towards the incision.
- Grab the uterine horn with your index finger and thumb over the proper ligament.
- The uterine horn may be surrounded by omentum; gently maneuver the omentum cranially to clear the horn.
- Sharply dissect (cut) the suspensory ligament, do NOT break it down.

Step TWO: Pedicle Ligation

- There are a number of ways to ligate an ovarian pedicle
 - Two circumferential ligatures
 - A proximal circumferential and distal transfixational ligature
 - Two miller's knots
 - An instrument tie
- Hemostats shouldn't be used to crush the tissue in cats, only to keep the ovary elevated out of the abdominal cavity; ligate below the hemostat
- Instrument tie: Hold the ovary in your left hand and reflect it away from you. With your right hand, hold the curved mosquitoes with the tip pointed towards the abdomen and the curve towards you. Move the tip of the hemostat behind the cranial aspect of the pedicle, then rotate the hemostat clockwise until the tip of the hemostat is facing away from you. Then open the hemostats and trap the pedicle in the open hemostat.
- Bluntly dissect the broad ligament of the right horn down to the level of the uterine bifurcation. Apply gentle caudal traction, keeping the ovary and uterine horn as close to the drape as possible. Follow the left horn cranially to the ovary. Repeat pedicle ligation on this ovary.

Step THREE: Uterine Ligation

- There are a number of ways to ligate the uterine body
 - Two circumferential ligatures
 - A proximal circumferential and a distal transfixational ligature
 - Two miller's knots

Step Four: Closure

- Start beyond the commissure of the incision (decreases tension on knot)
 - If off line but muscle is *not* bleeding, just take partial thickness bites through the external rectus sheath
 - If off line and muscle *is* bleeding, take a bite of the external rectus sheath and peritoneum of the far side, then peritoneum and external rectus sheath of the near side.
- Place bites 1 hemostat breadth away from the incision and space bites 2 hemostat breadths away from each other.
- Linea Alba: simple continuous, caudal → cranial (if right-handed)
- Subcuticular: simple continuous, cranial → caudal – leave the tag of the cranial knot long and continue your subcuticular into your intradermal
- Skin: running intradermal, caudal → cranial – tie the cranial aspect of the superficial intradermal to the deeper tag of the subcuticular that was left long
- Burying the knot (“smurf”): After cutting the tag of the deep subcuticular that was tied to the superficial intradermal, take a bite caudal to the knot that goes under the knot and comes out cranial to it in the skin. Give a gentle tug and cut the suture level with the skin.

NOTE: place towel clamps close to opening to prevent gaping of drape.

CANINE NEUTER

- Single scrotal incision
- Align one testicle under the median raphe of the scrotum, or make an incision directly over the median raphe. The incision should be half the length of the testicle and deep enough to remove the testicle from the scrotum. Advancing the most caudal aspect of the testicle through the incision will allow you to exteriorize the testicle from the scrotum with a smaller incision.
- Once the testicle is fully exteriorized, gently run the scalpel blade over the length of the testicle. This will help remove the fascia from the testicle. It is okay if you puncture through the parietal vaginal tunic; just place a hemostat around the cord to keep the parietal tunic from slipping down further.
- It is essential to strip the spermatic cord of all subcutaneous fascia. A gauze sponge wrapped around the cord can be used to strip the cord in an up and down motion, with upward tension holding the testicle using other hand.
- *Puppies and Small Adults*
 - Tie the spermatic cord onto itself
 - No subcuticular sutures
 - Appose incisional edges and apply surgical tissue adhesive to the surface, being cautious not to introduce glue into the incision
- *Adults*
 - Use 2-0 or 3-0 suture (depending on size)
 - Two circumferential ligatures
 - A proximal circumferential and distal transfixational ligature
 - Two miller's knots
 - Use simple interrupted or cruciate sutures to close the subcuticular layer, being sure to take bites of the median raphe
 - Appose incisional edges and apply surgical tissue adhesive to the surface, being cautious not to introduce glue into the incision

CANINE SPAY

>broad ligament (opaque, creamy) VS omentum (thin, clear)

- Trap ovary with left index finger against right side incision/wall. This will help secure placement for next step
- Place hemostats/clamps vertically to incision, place pedicle in hemostat so that clamp tip is exposed and able to extend over opposite wall
- Rotate hemostat, once suture is in place, in order to see where your ligation is being placed
- When making midline incision, go closer to umbilicus (more cranial)
- *ALL CANINES* - break down suspensory ligament with left index finger while holding straight up on proper ligament; then on their left---pop it medially; on their right---pop it laterally
- *Large Breed dogs* - suspensory ligament **MUST** be broken down completely so the ovarian pedicle can be isolated and get it out of abdomen.—VISUALIZATION IMPT
- The smaller the incision the better-- to decrease abdominal pressure on incision; this decreases amount of omentum dealt with at time of surgery;
- Double ligate ovarian pedicles and uterine body: Clamp with 2 hemostats; release lower one---ligature will go in crushed tissue depression; add clamp; remove bottom hemostat—2nd ligature in 2nd clamp crushed depression
- Circumferential ligatures on ovarian pedicles and uterine body. Ligate vessels in broad ligament if necessary—as in larger/older dogs???? ROT (rule of thumb) >6mo/adult (mature) reproductive system
- *ALL CANINE* - use 4/0 Monofilament Suture on the skin
- ALWAYS USE SMALLEST POSSIBLE SUTURE MATERIAL
- In intradermal suturing, the needle should be at end of needle holder and at the end of the needle
- Needle must go into skin edge and out of this edge.
- Use rotation of wrist to move needle through skin (don't fight it; try to move in straight line)
- Watch closely so that you do NOT exit skin (outside)
- Your bite should be straight across, or even some behind, NEVER ahead, or you will get gaps
- Move forceps---for in bite and out bite (between them) don't be afraid to use forceps but be careful about amount of pressure exerted. Think about touching, not gripping.