

Title: Effects of the Dowling Spay Retractor on Ovariohysterectomy

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Veterinary students typically learn and perform ovariohysterectomy (OVH) during the clinical years of their training. Student experience and confidence varies, but common intraoperative concerns include issues that can't be learned from reading a textbook or watching a video. No one wants to leave behind an ovarian remnant or to have a hemorrhaging dropped pedicle. The required skills to perform OVH can be practiced with models, but must eventually be learned by experience handling live tissues. Some concerns include: how hard to push on the scalpel blade to incise skin, subcutaneous tissue, and fascia; how hard to pull on the ovarian pedicle and uterine body during retraction for ligation; how to "break down" the suspensory ligament to gain exposure of the ovarian pedicle; and how tight to pull on suture material when ligating.

The Dowling Spay Retractor™ is designed to facilitate exposure of the reproductive tract without necessary tearing of the suspensory ligament. It is marketed to result in enhanced exposure via a smaller incision, shorter surgery time, allowing better ligature security, and reduced postoperative pain and abdominal tissue manipulation associated with tearing the suspensory ligament. The retractor is designed for use in all patient sizes and is inexpensive.

The retractor may significantly enhance student learning and confidence during OVH training. When the Dowling Spay Retractor™ is applied to the reproductive tract, it necessitates gentle steady traction on the ovarian pedicle and suspensory ligament. With choice of the appropriately sized arm for that particular patient, the safe degree of pulling is determined by lining up the foot on the abdominal wall and the clamp onto the proper ligament of the ovary. That gives students a gauge of what is acceptable and not acceptable tension on the pedicle, which is an individual patient variable.

Based on preliminary experience with use of the retractor in our 3rd year surgery course, student feedback was 100% positive. Approximately 20 students used the retractor and commented that it improved their exposure and made them feel more confident that their ligatures had been placed properly. This year we plan a study that will compare parameters such as surgery time, postoperative pain and student opinion of learning experience while they perform OVH in groups of dogs with and without use of the retractor. The dogs will be shelter or rescue animals requiring spay prior to adoption.

Results collected from 49 OVH procedures performed by an experienced shelter veterinarian indicated a statistically significant ($p=.004$) difference in mean surgery time of 6.08 minutes when using the Dowling Spay Retractor™ compared to 7 minutes without its use for <20 pound animals. When comparing OVH surgery time in 13 dogs weighing 20-50 pounds the means were also different (7.6 minutes versus 9.8 minutes) ($p=.05$).