

LAPAROSCOPIC OVARIECTOMY

CLIENT INFORMATION SHEET

What is a Laparoscopic Ovariectomy?

Ovariectomy is the process of removing ovaries. The procedure is most commonly indicated in mares that exhibit persistent behavioral problems while in heat. Mares that do not respond to hormonal treatment (eg Regumate) and that are not intended for breeding are potential candidates for the procedure. Ovariectomy is also indicated in mares with ovarian tumors or adhesions to remove the affected ovary. Traditional ovariectomy requires a long (10-15 inch) incision in the mare's flank (standing procedure) or under the abdomen (with the mare under general anesthesia). Laparoscopic ovariectomy involves removal of the ovaries through several small (1-3 inch) flank incisions using specially designed, long, narrow cameras and instruments. This is a type of minimally invasive surgery, similar to arthroscopy. In most cases laparoscopic ovariectomy is done standing.

What are the Advantages of Laparoscopic vs Traditional Ovariectomy?

There are several significant advantages to laparoscopic ovariectomy for the horse and the owner:

- 1) The small incisions greatly reduce trauma to the body wall and abdomen. This reduces post-operative muscle pain and, more importantly, the risk of post-operative intestinal adhesions. Adhesions are fibrous attachments that can form between areas of tissue trauma within the abdomen. Adhesions to intestines can interfere with normal motility, leading to colic.
- 2) The small incisions regain strength much more rapidly than the 10-15 inch incisions. As a result, the risk of incisional infection or herniation is low, and horses can return to work much more quickly following laparoscopic procedures (1-2 weeks) than is possible for traditional ovariectomy (2-3 months).
- 3) The preferred approach for laparoscopic ovariectomy is standing with sedation. This eliminates the risks associated with general anesthesia including adverse reactions to anesthetic agents, muscle damage during recumbency, and trauma during recovery.
- 4) Hemorrhage is a significant risk with most traditional ovariectomies. With laparoscopic ovariectomy, the camera allows the surgeon to see the ovarian vessels. Surgeons at the UMN CVM use a special device called a Ligasure to seal the vessels during the surgery. This makes the hemorrhage risk minimal.

Are there potential Risks or Disadvantages of Laparoscopic vs Traditional Ovariectomy?

There are a few risks that are unique to laparoscopy, and a few technical disadvantages that must be addressed.

- 1) In order to separate the contents of the abdomen enough to see individual structures, gas (carbon dioxide) is insufflated into the abdomen. A few horses will respond poorly to the increase in abdominal pressure created and show signs of discomfort or difficulty breathing. In mild cases this does not interfere with the procedure, but a more extreme response may require abortion of the procedure and/or conversion to a traditional approach. Cases of gas embolization have been described in human laparoscopy; but this problem has not been recognized in horses.
- 2) Insertion of the portals for the camera and instruments requires that the horse's large intestine be fairly empty to avoid accidental trauma. This requires 24-36 hours of feed withdrawal and the procedure may need to be delayed from the scheduled time if the intestines are too full.
- 3) There is a risk of accidental trauma to the intestine or spleen during insertion of the first instrument portals. In most cases, the trauma is mild, easily visualized, and does not require any treatment. Very rarely, trauma is sufficient to require specific repair and may require a larger incision.
- 4) Standing procedures require that the horse be able to stand quietly for several hours in a set of stocks. If a horse does not respond well to sedation or if it has a strong aversion to stocks, it may be more appropriate to perform the procedure under general anesthesia for safety reasons.
- 5) Very large solid ovaries (most commonly associated with tumors) may not fit through the small incisions used for the laparoscopic approach. In most cases we can proceed with the laparoscopic approach and enlarge the incision at the last step for ovary removal. If the ovary is extremely large, then we would recommend removal from a traditional approach using general anesthesia so that the incision can be extended as needed.
- 6) Colic is common after all types of ovariectomy. Laparoscopic ovariectomy minimizes the pain but horses are treated with mineral oil prior to surgery and are monitored for colic after the procedure.

What can I expect if I schedule my horse for laparoscopic ovariectomy?

- 1) We will ask that you bring your mare in by noon on the day before the scheduled surgery so that we can test her response to stocks and sedation, and perform a rectal examination to confirm the size of the ovaries and check for adhesions and position of abdominal structures. She will be given mineral oil by stomach tube to reduce the risk of constipation after surgery. We will also draw blood to check for signs of infection and to confirm that her kidneys are functioning normally (in preparation for antibiotics).
- 2) We will ask that you remove all food from the mare by 10:00pm on the evening before you bring her in. This may require some creativity on your part, particularly if you bed on straw and the mare is willing to eat it. Alternately, the mare may be dropped off the evening before her appointment for a minimal boarding fee.
- 3) Be sure to bring your vaccination records to your appointment. It is important that the mare have had a current (<6 month old) tetanus vaccination. If she has not been vaccinated recently or if you are not sure, we will revaccinate.

- 4) We will contact you on the evening of admission to let you know if there are any additional considerations based on our examination and to give you an estimated time for surgery on the following day. Keep in mind that the time of surgery may be further delayed if the intestines are still too full.
- 5) On the day of surgery we will clip a small spot on her neck for a jugular catheter and a small spot at the base of her tail for an epidural nerve block. A catheter will be placed for administration of pre-operative antibiotics, banamine (pain relief), and intra-operative administration of sedatives. A second dose of mineral oil will be given by stomach tube.
- 6) While the incisions are small, we require a large surgical field to avoid contaminating the instruments. Therefore, your mare will have a large clip over her loin region that goes from her belly on one side, up and over the top, and down to her belly on the other. Hair may take a season to come back to normal depending on time of year and natural coat.
- 7) We will contact you on the day of surgery to let you know of any changes in plan or concerns related to the procedure. We will also contact you after surgery (generally in the early evening) to confirm that the procedure is completed. We will ask that you provide a phone number so that we can reach you on the day of surgery in case we need to discuss findings or changes in plan.
- 8) Most mares stay 1-2 days after surgery to monitor incisions, appetite, fecal passage, and attitude. We will continue the banamine for at least one day after surgery. The hospital is staffed 24/7 to allow close monitoring of your mare.
- 9) We recommend that mares be stall rested with hand walking for the first 5 days after surgery followed by 9 days of turn out. Sutures should be removed at 14 days after surgery. At that time the mare may be returned to light work, with gradually increasing activity level over the next two weeks to reach presurgical levels by 28 days after surgery.