IMBRICATION OF THE MESOMETRIA TO RESTORE HORIZONTAL ORIENTATION OF THE UTERUS
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Key Points:
- Mares may become susceptible to uterine infection when multiple pregnancies cause the uterus to become oriented ventrally preventing clearing of debris and bacteria.
- A ventrally oriented uterus can be returned to a normal, horizontal orientation by imbricating the mesometria.

Some mares become infertile because they are unable to clear debris from the uterus because multiple pregnancies have caused the uterus to deviate ventrally from its normal horizontal position. The strength of contractions of a ventrally oriented uterus may be inadequate to clear the uterus of debris and bacteria resulting in an environment inhospitable to an embryo. Uterine clearance may improve if the uterus is returned to a horizontal position.

A ventrally oriented uterus can be returned to horizontal position laparoscopically. Feed should be withheld for about 36 hours before surgery. Feces are evacuated from the rectum and the horse is sedated. The sites of incision for laparoscopic portals are prepared for surgery and desensitized with local anesthetic. Three laparoscopic portals (cranial, middle, and caudal) are used to complete the procedure. The laparoscopic (cranial) portal is placed at the level of the 17th intercostal space slightly below an imagined horizontal line through the ventral border of the tuber coxae. The two instrument portals are positioned at a site midway between the tuber coxae and the last rib (the middle portal); and a site 6 cm ventral and 2 cm caudal to the central portal (the caudal portal).

Positive pressure is usually not necessary to visualize the uterine horns. The horn and mesometrium are desensitized by instilling local anesthetic into the mesometrium through an injection cannula. The mesometrium is imbricated using a laparoscopic needle holder inserted through the central portal or an endoscopic automated suturing device inserted through the caudal portal. The uterine body and horn are sutured to the mesometrium with a 1.5-m strand of #6 polyglactin 910 suture swaged to a large needle. The suture and needle holder are inserted into the abdomen through the large (>25-mm diameter) middle cannula. The needle is inserted through the dorsolateral aspect of the uterus and then through the mesometrium about 3 cm dorsal to its uterine attachment. The suture is anchored after the 1st stitch by passing the needle through a small loop previously created on the end of the suture. The mesometrium is imbricated using a simple-continuous pattern until the tip of the uterine horn is reached. The cranial end of the suture line is tied extra-corporeally or intra-corporeally. The same approach and technique are then used to imbricate the right mesometrium. Incisions are sutured or stapled. Alternatively, the mesometrium is similarly imbricated using the Endo Stitch Automatic Endoscopic Suturing Device (Auto Suture Company) inserted through the caudal cannula. The needle is moved from one jaw to the other, through tissue interposed between the jaws, when the handles on the instrument are squeezed and the flip lever is pivoted. A 120-cm strand of #0 polyglycolide colactide suture is used.
An NSAID is administered pre- or post-operatively for at least one treatment. The mare is confined to a stall or small paddock for 4 weeks before being allowed unrestricted exercise. Complications other than mild colic, have not been observed. Preliminary results indicate beneficial results with little medical risk. In one published study, 3 of 5 infertile mares that underwent uteropexy became pregnant.\textsuperscript{1} Two of the mares were not bred. In an unpublished study, 2 of 3 infertile mares that underwent uteropexy became pregnant (Personal communication, Brink P, June 2011).