## Helpful Tips to Manage Difficult Cesarean Section in Cattle

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Cesarean section is usually performed with minimal difficulty and a low complication rate. Occasionally, difficulties are encountered during surgery, which frustrate and fatigue the surgeon as well as the cow. One such complication is when excessive straining causes rumen prolapse through a left flank incision. I have used two methods to handle this problem: 1) lidocaine + xylazine epidural medication and 2) placement of a nasotracheal or orotracheal tube.

Epidural anesthesia is performed using lidocaine HCl 2% given in the caudal epidural site at a maximum rate of 0.5 ml per 100 pounds body weight. This weight limit will prevent the development of ataxia and the anesthesia decreases positive feedback stimulation from the cervix. Xylazine given epidurally via the caudal site is administered at a rate of 0.03 mg/kg body weight and is mixed with the lidocaine. The xylazine provides analgesia and decreases the positive feedback of uterine con-

traction and abdominal manipulation. Mild sedation is a desirable side effect, but the cow remains alert enough to stand.

If straining is continued despite epidural anesthesia / analgesia, then an orotracheal or nasotracheal tube may be placed. I use an equine nasogastric tube for this purpose. A Frick speculum is used when orotracheal placement is desired. The placement of the tube into the trachea prevents closure of the arytenoid cartilages and, thus, the glottis. If the glottis cannot be closed, abdominal contractions are ineffectual because thoracic pressure is not realized. Thus, the laparotomy has "decompressed" the abdomen and the translaryngeal tube has prevented "compression" of the thorax.

I have used this technique successfully in several cows. Placement of epidural drugs and tracheal tubes are not difficult and may be done quickly.