**Alpha-2 Agonist: Xylazine**

Ruminants are fairly sensitive to xylazine. When dosed too aggressively, xylazine often produces recumbency in ruminant patients. Unfortunately, the initial demeanor of the patient mediates the effect obtained with xylazine, making it more difficult to obtain the desired level of cooperation in many ruminant patients, especially when recumbency is not desired.

Xylazine can be administered either intravenously (IV) or intramuscularly (IM) and produces a dose dependent degree of sedation, muscle relaxation, and analgesia. Intravenous administration of xylazine provides a faster onset and more intense level of chemical restraint and analgesia. The fairly rapid onset time can be used to advantage, allowing multiple smaller doses of IV xylazine to be administered in an attempt to titrate the effect to the desired level.

Intramuscular administration results in a more gradual onset and provides a longer duration of less intense chemical restraint and analgesia. Intramuscular administration is often used when patient cooperation does not allow IV administration or when extended duration is desired. The intramuscular dose is typically twice the IV dose you would select for the patient based on the desired level of effect and the patient’s initial demeanor.

Xylazine produces dose dependent side effects, including decreases in gastrointestinal motility and cardiorespiratory function. Xylazine should be avoided or used very cautiously in compromised patients and should be reversed upon completion of the procedure. Even in normal healthy patients, when large doses of xylazine are administered (those intended to produce recumbency), reversal is advisable to minimize the risk of gastrointestinal complications.

Xylazine can increase uterine tone in very late gestation and its use during this time may not be advisable.

Xylazine can be used alone to produce standing sedation. Xylazine (0.02-0.03 mg/kg IV or 0.04-0.06 mg/kg IM) will produce standing sedation in the majority of normal healthy cattle with a low risk of recumbency. Xylazine can also be used to induce recumbency in ruminants.

Xylazine (0.05-0.1 mg/kg IV, depending on demeanor and the importance of success) will produce recumbent sedation in the majority of normal healthy cattle. Xylazine can produce recumbency when given IM, but it is not very predictable and more difficult to successfully reverse.

Duration of Xylazine sedation and analgesia is dose dependent, generally lasting about

30-40 minutes following IV administration. Xylazine sedation and its attendant analgesia are useful for facilitating short diagnostic or therapeutic procedures on uncooperative patients.

While patients will generally tolerate mildly uncomfortable stimuli, this approach should not be counted on to provide surgical analgesia.