**Most Common Anesthetic Drug Combination for Induction**

• Xylazine premedication and ketamine (±diazepam) Induction

• Ketamine administered alone without sedative premedication to the horse causes excitement

• Ketamine is injected 3-5 min after apparent xylazine induced sedation

• Ketamine is not used by IM injection in the conscious horse because the horse may be injured during the period of incoordination occurring while the drug is taking effect

• Biologic half life of ketamine is 45 minutes in the horse, with 99% of a bolus dose eliminated in 4 hours. Recovery to consciousness is due to extensive extravascular distribution of the drug

• Induction of anesthesia occurs about 60 seconds after ketamine injection. Horse falls to the ground characteristically with the forelimbs buckling and the hindlimbs straight. The person holding the horse’s head should exert steady backward pressure on the horse during loss of consciousness in an attempt to make the horse sit on its hindquarters and not fall on its nose.

• Xylazine-ketamine anesthesia is accompanied by strong muscle tone for the first 5 minutes, and usually nystagmus, a strong palpebral reflex, and pupillary dilation.

• The duration of anesthesia varies from 7 min to 20 min. Anesthesia is often short in young horses and in Thoroughbreds.

• The major advantage of this combination is that recovery is usually smooth, with less incoordination than is seen with thiobarbiturate or guaifenesin combinations. The horse is usually standing 30-40 minutes following a single administration of xylazine and ketamine.

• Glyceryl Guaicolate Ether (GGE) is another useful drug for equine anesthetic induction

• Also known as guaifenesin (US) or guaiphenesin (Europe), it is administered at 50 – 100 mg/kg IV to effect to produce sedation/muscle relaxation

• Because of its muscle relaxant effect, this drug alone is not suitable to produce sedation as the ataxic horse may panic

•When animal knuckles following adequate dose (usually 50 mg/kg), a rapid bolus dose of 0.5 mg/kg ketamine IV or 2 mg/kg thiopental sodium is administered to provide smooth anesthetic induction

• Anesthesia can then be maintained either on inhalational agent or intravenous anesthetics.

• Available in 5, 10, 15 % in commercial preparation, but concentration higher than 15 % is not recommended for use due to hemolysis.

• Can be mixed with thiopental sodium, ketamine or xylazine in the diluent

• Home-made GGE may form precipitates if left unused for prolonged period, but rewarming the diluent will resolve this, and the efficacy of the agent is not altered. This problem is not seen with commercial preparations.

• Variations

o Substitute xylazine with detomidine or romifidine

o Add butorphanol to premed

o Add acepromazine to premed

o Add diazepam to induction

o Add/substitute guaifenesin ± thiopental to induction

o Add/substitute Telazol, detomidine to induction (TKD mixture)