Drug	Dose/mg/ml	Time of Onset	Duration of Action	Use	Contraindications	Withdrawal times	Reversal agents/ techniques
2% Xylazine	Horses: 1.1mg/kg IV, 2.2mg/kg IM Cattle: 7.5-50 micrograms/kg IV, 15-100 micrograms/kg IM depending on temperament (0.02-0.0275 mg/kg IM for ketamine stun) Sheep & goats: 0.01mg/kg IV (light standing sedation) or 0.2 mg/kg IM (recumbency)	2-5 minutes	30-40 minutes	-To produce a state of sedation with a shorter period of analgesia -Preanesthetic before local and general anesthesia	-Do not use in animals receiving epinephrine or having active ventricular arrhythmias -Do not use in the last trimester of cattle pregnancy -Do not give to ruminants that are debilitated, dehydrated or have a urinary obstruction	-7 days meat -72 hours milk	-Tolazoline -Atipamezole -Yohimbine

Drug	Dose/mg/ml	Time of Onset	Duration of action	Use	Contraindications	Withdrawal times	Reversal agents/ techniques
10% Ketamine	Horses: 2.2mg/kg IV Cattle, sheep and goats: 0.3-0.5mg/kg (0.05-0.1 mg/kg for ketamine stun)	5-10 minutes	30-40 minutes	Dissociative general anesthetic	-Not for use in animals with prior hypersensitivity reactions, hypertension, severe cardiac, hepatic or regional impairment, head trauma, seizure disorders, glaucoma or head injuries	3-day meat and milk withdrawal period	-Ketamine has a wide therapeutic index; respiratory problems associated with overdose should be treated symptomatically (i.e. mechanical ventilation) -Atropine or glycopyrrolate can be administered to reduce hypersalivation
2% Lidocaine	Cattle and Horses: 5-15ml of 2% lidocaine for epidural block; 5-20ml for nerve blocks Sheep & goats: 5mg/kg	5 minutes	1-2 hours	Local anesthetic Infiltration, nerve block and epidural anesthesia IV as an antiarrhythmic drug, analgesic and prokinetic	Not for use in animals with prior hypersensitivity reactions	1-day meat and milk withdrawal period	-Lipid emulsion therapy -Cardiovascular support such as IV fluids and vasopressor drugs (e.g. Epinephrine) - Benzodiazepines or barbiturates for seizures