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| Drug name | Category | Use | MOA | Dose | Method of administration | Side Effects | Withdrawal times | Precautions |
| Ketamine 10% | Anesthetic agent  Rapid acting, non- barbiturate, general anesthetic | Ketamine has been approved for use in humans, sub- human primates, and cats. The approved indications for cats include, for restraint, or as a sole anesthetic’s agent for diagnostic, or mi-nor, brief, surgical procedures that do not require skeletal muscle relaxation ketamine can inhibit NMDA receptors in the CNS and decrease “wind-up” effect. There is increasing interest in using it to prevent exaggerated pain associated with surgery or chronic pain states in animal. | Act as a noncompetitive antagonist for n-methyl D-aspartate (NMDA) receptors. | **Dogs** -in combination with xylazine: 6-10 mg ketamine with 1-2 mg xylazine per kg body weight  **Cats** -in combination with xylazine: 8-20 mg ketamine with 1-2 mg xylazine per kg body weight  **Horses**-in combination with xylazine: 2.2 mg ketamine with 1.1 mg xylazine per kg body weight  Cattle in combination with xylazine: 2-5 mg ketamine with 0.14-0.22 mg xylazine per kg body  weight, after sedation or premedication  **Goats**-in combination with xylazine: 10 mg ketamine with 0.22 mg xylazine per kg body weight  **Swine-** in combination with azaperone: 15-20 mg ketamine with 2 mg azaperone per kg body  weight | IM & IV | Increase heart rate and blood pressure as a result of an increase in sympathetic tone. It will produce an increased cardiac output compared to other anesthetic agents.Increased respiratory secretions, increased blood pressure, elevated heart rate, dose dependent respiratory depression, vocalization, erratic and prolonged recovery, spastic jerking movements and muscle tremors. In rare instances, ketamine has been shown to induce seizures. | 3 days for food animals and 48 hours for milk. | Do not use as a mono-anesthetic. Eyes of patient stay open, apply eye ointment to prevent  dehydration of the cornea. Sedated animals should remain under observation and segregated  without water and feed until normal. Avoid direct skin contact to prevent sensitization  and contact dermatitis, wash off splashes from the skin and eyes immediately. This is  a potent drug; particular care should be taken to avoid accidental self-administration. |