

be used with caution with these central nervous system depressants. Products known to produce respiratory depression or apnea, such as thiamylal sodium, should be given at a reduced dosage and, when injected intravenously, should be administered slowly.

When intravenous administration is desired, avoid perivascular injection in order to achieve the desired effect. Studies have shown negligible evidence of tissue irritation, however, following perivascular injection of xylazine.

Bradycardia and an arrhythmia in the form of incomplete atrioventricular block have been reported following xylazine administration. Although clinically the importance of this effect is questioned,² a standard dose of atropine given prior to or following xylazine will greatly decrease the incidence.

While sedation usually lasts from 1 to 2 hours, recovery periods in excess of 4 to 5 hours have been reported in dogs and cats.

SAFETY: Xylazine has been tested in dogs at 4 times the recommended dose. Doses of this magnitude produced muscle tremors, emesis and long periods of sedation.⁴

WARNING: This drug is for use in dogs and cats only.

STORAGE: Protect from heat. Do not store over 30° C (86° F).

HOW SUPPLIED: 20 mL multiple-dose vials containing 20 mg base activity per mL, List No. 4811.

CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

REFERENCES:

1. Upson, D.W.: Upson's Handbook of Clinical Veterinary Pharmacology. VM Publishing, Inc., Bonner Springs, Kansas, (1981), 148, 248.
2. Detweiler, D.K., Patterson, D.F., Luginbuhl, H., Rhodes, W.H., Buchanan, J.W., Knight, D.H., Hill, J.D.: Diseases of the Cardiovascular System in Canine Medicine, Edited by E.J. Catcott, American Veterinary Publications, Inc., Santa Barbara, California and Wheaton, Illinois, (1968), 589-679.
3. Bargai U.: The effect of xylazine hydrochloride on the radiographic appearance of the stomach and intestine in the dog. Vet. Radiol. 23:60-63, 1982.
4. VET-A-MIX Research.

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Manufactured by
Akorn, Inc.,
Decatur, IL 62522

NADA #139-236, Approved by FDA

AnaSed®

INJECTION

(Xylazine Sterile Solution)

20 mg/mL Injection

Sedative and Analgesic
For use in Dogs and Cats Only

DESCRIPTION: AnaSed® is supplied as a sterile solution.

Each mL contains xylazine hydrochloride equivalent to 20 mg of base activity, methylparaben 0.9 mg, propylparaben 0.1 mg, and water for injection. pH adjusted with citric acid and sodium citrate.

*U.S. Patent No. 4,614,798

PHARMACOLOGY: Xylazine, a non-narcotic compound, is a sedative and analgesic as well as a muscle relaxant.¹ Its sedative and analgesic activity is related to central nervous system depression. Its muscle relaxant effect is based on inhibition of the intraneural transmission of impulses in the central nervous system. The principal pharmacological activities develop within 10 to 15 minutes after intramuscular or subcutaneous injection, and within 3 to 5 minutes following intravenous administration.

A sleeplike state, the depth of which is dose-dependent, is usually maintained for 1 to 2 hours, while analgesia lasts from 15 to 30 minutes. The centrally-acting muscle relaxant effect causes relaxation of the skeletal musculature complementing sedation and analgesia.

In animals under the influence of xylazine, the respiratory rate is reduced as in natural sleep. Following treatment with xylazine, the heart rate is decreased and a transient change in the conductivity of the cardiac muscle may occur as evidenced by a

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partial atrioventricular block. This resembles the atrioventricular block often observed in apparently normal animals.² Intravenous administration of xylazine causes a transient rise in blood pressure, followed by a slight decrease.

Xylazine has no effect on blood clotting time or other hematological parameters.

INDICATIONS: Xylazine should be used in dogs and cats when it is desirable to produce a state of sedation accompanied by a shorter period of analgesia. Xylazine has been used successfully as follows:

1. Diagnostic procedures — examination of mouth and ears, abdominal palpation, rectal palpation, vaginal examination, catheterization of the bladder and radiographic examinations of head and extremities.
2. Orthopedic procedures, such as application of casting materials and splints.
3. Dental procedures.
4. Minor surgical procedures of short duration such as debridement, removal of cutaneous neoplasms and suturing of lacerations.
5. To calm and facilitate restraint of fractious animals.
6. Major surgical procedures:
 - a. When used as a preanesthetic to general anesthesia.
 - b. When used in conjunction with local anesthetics.

DOSAGE AND ADMINISTRATION:

1. Dosage

Intravenous — 0.5 mL/20 lb body weight (0.5 mg/lb or 1.1 mg/kg)

Intramuscular or Subcutaneous — 1.0 mL/20 lb body weight (1.0 mg/lb or 2.2 mg/kg)

In large dogs (over 50 lbs) a dosage of 0.5 mg/lb administered intramuscularly may provide sufficient sedation and/or analgesia for most procedures.

Since vomiting may occur (see SIDE EFFECTS), fasting for 6-24 hours prior to the use of xylazine may reduce the incidence; the I.V. route results in the least vomiting.

Following injection of xylazine, the animal should be allowed to rest quietly until the full effect has been reached.

These dosages produce sedation which is usually maintained for 1 to 2 hours and analgesia which lasts for 15 to 30 minutes.

2. Preanesthetic to Local Anesthesia
Xylazine at the recommended dosages can be used in conjunction with local anesthetics, such as procaine or lidocaine.
3. Preanesthetic to General Anesthesia
Xylazine at the recommended dosage rates produces an additive effect to central nervous

system depressants such as pentobarbital sodium, thiopental sodium and thiamylal sodium. Therefore, the dosage of such compounds should be reduced and administered to the desired effect. In general, 1/3 to 1/2 of the calculated dosage of the barbiturates will be needed to produce a surgical plane of anesthesia. Postanesthetic or emergence excitement has not been observed in animals preanesthetized with xylazine.

Xylazine has been used successfully as a preanesthetic agent for pentobarbital sodium, thiopental sodium, thiamylal sodium, nitrous oxide, ether, halothane and methoxyflurane anesthesia.

SIDE EFFECTS: Emesis occurs occasionally in dogs, and frequently in cats, soon after the administration of xylazine, but before clinical sedation is evident. When observed, emesis usually occurs only a single time, after which there is no further emetic effect. The use of antiemetics may delay this phenomenon. The occurrence of emesis may be considered a desirable effect when xylazine is administered as a preanesthetic to general anesthesia.

Xylazine used at recommended dosage levels may occasionally cause slight muscle tremors, bradycardia with partial A-V heart block and a reduced respiratory rate. Should excessive respiratory depression or bradycardia occur following the use of AnaSed (xylazine), administer yohimbine to rapidly reverse the xylazine-induced effects.

Gaseous distension of the stomach may occur in dogs treated with xylazine making radiographic interpretation more difficult.³

Movement in response to sharp auditory stimuli may be observed.

Increased urination may occur in cats following the use of xylazine.

PRECAUTIONS: Clinical results with xylazine have not revealed any detrimental effects when the compound is administered to pregnant dogs or cats. However, until more definitive studies are completed, xylazine is not recommended for use in these animals.

Careful consideration should be given before administering to dogs or cats with significantly depressed respiration, severe pathologic heart disease, advanced liver or kidney disease, severe endotoxic or traumatic shock and stress conditions such as extreme heat, cold or fatigue.

Analgesic effect is variable, and depth should be carefully assayed prior to surgical/clinical procedures. **In spite of sedation, the practitioner and handlers should proceed with caution since defense reactions may not be diminished.**

Do not use xylazine in conjunction with tranquilizers.

Since an additive effect results from the use of xylazine and the barbiturate compounds, it should