Tolazine® Injection (tolazoline HCl, USP)

Alpha-2 antagonist. For use as indicated in equine AnaSed® (xylazine sterile solution) Injection reversal.

- Alpha-adrenergic receptor antagonist
- Reverses the effects of sedation and analgesia
- Rapidly restores reflexes and ambulation
- Reverses xylazine-induced GI hypomotility
- Manufactured in the U.S.A.

Tolazine® is uniquely effective for the rapid reversal of AnaSed® in horses. It provides for a well-controlled and predictable recovery resulting in accelerated reflex and ambulation restoration.

Tolazine® also provides the added benefit of xylazine-induced GI hypomotility correction. For safe and cost-effective AnaSed® reversal, veterinarians consistently trust Akorn Animal Health brand Tolazine® to get their patients back on their feet.

NADA #140-994, Approved by FDA
Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.
Tolazine® Injection  
(tolazine hydrochloride injection)  
100 mg Tolazine per mL  
Sterile Solution  

Xylazine Reversing Agent and Antagonist  
For Intravenous Use in Horses Only  

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DESCRIPTION: Tolazine contains tolazine hydrochloride with the chemical name 1H-imidazole,4,5-dihydro-2-(phenylmethyl)-yl-monohydrochloride. Tolazine hydrochloride has a molecular weight of 196.68 and the molecular formula is C_{10}H_{12}N_{2}•HCl. The structural formula is

![Structural formula of tolazine hydrochloride](image)

Each mL contains: tolazine hydrochloride equivalent to 100 mg base activity, chlorobutanol 5.0 mg, tartaric acid 7.8 mg, sodium citrate dihydrate 7.8 mg and water for injection. The pH is adjusted with hydrochloric acid and sodium citrate.

INDICATIONS: Tolazine should be used in horses when it is desirable to reverse the effects of sedation and analgesia caused by xylazine.

DOSAGE AND ADMINISTRATION: 

The Tolazine dose is 4.0 mg/kg body weight or 1.8 mg/lb (4 mL/100 kg or 4 mL/220 lb) to bring the sedative effects of xylazine to a careful level. The dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection. Administration rate should be calculated dose of Tolazine should be given slowly by intravenous injection.

The table demonstrates the correct injection volume based on body weight:

<table>
<thead>
<tr>
<th>Body Weight (kg)</th>
<th>Body Weight (lb)</th>
<th>Tolazine Injection Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>250 kg</td>
<td>550 lb</td>
<td>10 mL</td>
</tr>
<tr>
<td>500 kg</td>
<td>1100 lb</td>
<td>20 mL</td>
</tr>
</tbody>
</table>

WARNING: Keep out of reach of children. Not for human use. Do not use in horses intended for human consumption. Avoid contact with eyes, skin and mucous membranes. In case of eye contact flush with plenty of water. Exposed skin should be washed with soap and water. In case of accidental oral exposure or injection, seek emergency medical attention. Users with cardiovascular disease (for example, hypertension or ischemic heart disease) should take special precautions to avoid accidental exposure to this product.

To report adverse reactions in users or to obtain a copy of the material safety data sheet for this product, call 1-800-932-5676.

PRECAUTIONS: The safety of Tolazine has not been evaluated in horses with metabolically unstable conditions. Tolazine should not be administered to animals exhibiting signs of stress, debilitation, cardiac disease, sympathetic blockage, hypovolemia or shock.

The safety of Tolazine has not been evaluated for reversing xylazine used as a preanesthetic to a general anesthetic.

Adverse reactions: 

5. Hsu, W.H., et al. Effects of tolazoline and yohimbine on xylazine-induced hypomotility. A return to normal intestinal motility occurred within 5 minutes after Tolazine administration. A single incidence of mild colic was observed at three times the recommended Tolazine dose, and one instance of transient diarrhea was exhibited at three times the recommended Tolazine dose.

The heart rate may briefly increase immediately after Tolazine injection at the recommended dose with return to pretreatment rates within 5-10 minutes. The degree and duration of tachycardia increased with higher doses, although the increased rate usually lasted less than 60 minutes.

When Tolazine was administered at higher than the recommended dose in healthy horses, intraventricular conduction was slowed, as demonstrated by a prolongation of the QRS complex of the ECG. This effect was not observed at the 1X dose, only a mild prolongation occurred in a single horse at the 2X dose, and it was seen in most horses that received the 3X and 5X doses. Abnormalities of intraventricular conduction can predispose to ventricular arrhythmias and possibly death.

Overdoses of Tolazine at 5 times the recommended dose have been associated with fatalities in horses. Tolazine reverses blood pressure reduction induced by xylazine in healthy horses, and may result in mild hypertension in some animals at the recommended dose. Tolazine at doses less than or equal to 5 times the recommended dose did not affect any hematologic, serum biochemical, or urinalysis measurements.

STORAGE: Protect from light. Store at controlled room temperature 15° to 30°C (59° to 86°F).

HOW SUPPLIED: 

- NDC 59399-113-90 100 mL multiple-dose vial.

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REFERENCES:

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NOT FOR PRESCRIBING PURPOSES. PLEASE REFER TO PACKAGE INSERT FOR FULL PRESCRIBING INFORMATION.