In horses, intravenous dosages of butorphanol ranging from 0.05 to 0.4 mg/kg were shown to be effective in alleviating visceral and superficial pain for at least 4 hours, as illustrated in the following figure:

![Analgesic Effects of Butorphanol Given at Various Dosages in Horses with Abdominal Pain](image)

*Pain threshold in butorphanol-treated colicky horses relative to placebo controls.

A definite dosage-response relationship was detected in butorphanol dosage of 0.1 mg/kg was more effective than 0.05 mg/kg but not different from 0.2 mg/kg in alleviating deep abdominal pain.

**Acute Equine Studies**

Rapid intravenous administration of butorphanol at a dosage of 2 mg/kg (20 times the recommended dosage) to a previously unmedicated horse resulted only in transient sedative effects. During the 10-day course of administration at 1 mg/kg (10 times the recommended use level) in two horses, the only detectable drug effects were transient behavioral changes typical of narcotic agonist activity. These included muscle fasciculation about the head and neck, dysphoria, lateral nystagmus, ataxia and salivation.

Repeated administration of butorphanol at 1 mg/kg (10 times the recommended dose) every four hours for 48 hours caused constipation in one of two horses.

**Subacute Equine Studies**

Horses were found to tolerate butorphanol given intravenously at dosages of 0.1, 0.3 and 0.5 mg/kg every four hours for 48 hours followed by once daily injections for a total of 21 days. The only detectable drug effects were slight transient ataxia observed occasionally in the high dosage group. No clinical, laboratory, or gross or histopathologic evidence of any butorphanol-related toxicity was encountered in the horses.

**INDICATIONS**

TORBUGESIC (butorphanol tartrate) is indicated for the relief of pain associated with colic in adult horses and yearlings. Clinical studies in the horse have shown that TORBUGESIC alleviates abdominal pain associated with torsion, impaction, intussusception, spasmody and tympanic colic and postpartum pain.

**WARNINGS**

DO NOT USE IN Horses INTENDED FOR HUMAN CONSUMPTION. NOT FOR HUMAN USE.

**CAUTION**

TORBUGESIC, a potent analgesic, should be used with caution with other sedative or analgesic drugs as these are likely to produce additive effects. There are no well-controlled studies using butorphanol in breeding horses, weanlings and foals. Therefore, the drug should not be used in these groups.

**ADVERSE REACTIONS**

In clinical trials in horses, the most commonly observed side effect was slight ataxia which lasted 3 to 10 minutes. Marked ataxia was reported in 1.5% of the 327 horses treated. Mild sedation was reported in 9% of the horses.

**DOSEAGE**

The recommended dosage in the horse is 0.1 mg of butorphanol per kilogram of body weight (0.05 mg/kg) by intravenous injection. This is equivalent to 5 mL of TORBUGESIC for each 1000 lbs body weight.

The dose may be repeated within 3 to 4 hours but treatment should not exceed 48 hours.

Pre-clinical model studies and clinical field trials in horses demonstrate that the analgesic effects of TORBUGESIC are seen within 15 minutes following injection and persist for about 4 hours.

**HOW SUPPLIED**

50 mL vials TORBUGESIC (butorphanol tartrate), Veterinary Injection, 10 mg base activity per mL.

10 mL vials TORBUGESIC (butorphanol tartrate) Veterinary Injection, 10 mg base activity per mL.

Store at controlled room temperature 20°-25°C (68°-77°F) with excursions between 15°-30°C (59°-86°F).

**REFERENCES**