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Neuroleptanalgesia in wild Asian elephants (*Elephas maximus maximus*).

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### Source

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### Abstract

#### **OBJECTIVE:**

To evaluate the suitability of etorphine with acepromazine for producing prolonged neuroleptanalgesia in wild Asian elephants.

#### **ANIMALS:**

Ten adult wild elephants (four males, six females), free-roaming in the jungles of the north-western province of Sri Lanka.

#### **MATERIALS AND METHODS:**

Ten wild elephants were tranquilized for attachment of radio transmitter collars from September to November 1997, using Large-Animal Immobilon (C-Vet Veterinary Products, Leyland, UK), which is a combination of etorphine (2.45 mg mL<sup>-1</sup>) and acepromazine (10 mg mL<sup>-1</sup>). This was injected using projectile syringes fired from a Cap-Chur gun (Palmer Chemical Co. Inc., Atlanta, USA). A volume of 3.3 (2.5-4.5) mL Immobilon (6.12-11.02 mg of etorphine and 25-45 mg acepromazine) was injected intramuscularly after body mass estimation of individual elephants.

#### **RESULTS:**

The body condition of all darted elephants was good, and the mean (minimum-maximum) shoulder height was 225 (180-310) cm. The average approximate distance to elephants at firing was 26 (15-50) m. The average time to recumbency after injection was 18 (15-45) minutes. Nine out of 10 elephants remained in lateral recumbency (and did not require additional dosing) for a period of 42 (28-61) minutes. The respiratory and heart rates during anaesthesia were 7 (4-10) breaths and 52 (40-60) beats minute<sup>-1</sup>, respectively. An equal volume (8.15-14.67 mg) of

diprenorphine hydrochloride (Revivon, 3.26 mg mL<sup>-1</sup> diprenorphine; C-Veterinary Products, Leyland, UK) was given intravenously when the procedure was completed. Recovery (return to standing position) occurred in 6 (2-12) minutes after diprenorphine injection. Immediately afterwards, all elephants slowly retreated into the jungle without complications. Continuous radio tracking of the animals involved in this study indicated no post-operative mortality for several months after restraint. **CONCLUSIONS/CLINICAL RELEVANCE:** Etorphine-acepromazine combinations can be used safely in healthy wild Asian elephants for periods of restraint lasting up to 1 hour.

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