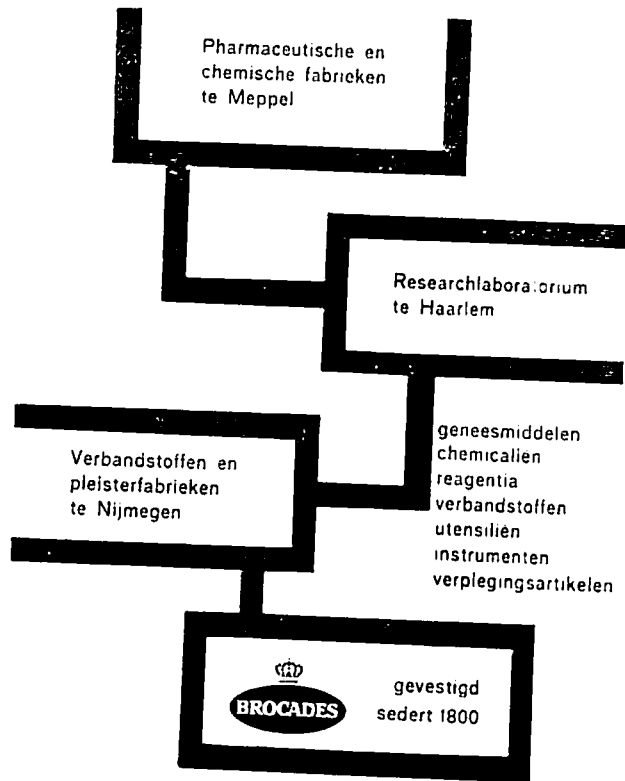


*The narcosis of the white rhinoceros. A series of eighteen case histories.*

by A. M. HARTHOORN\* and I. C. FLAYER\*\*



N.V. KONINKLIJKE PHARMACEUTISCHE FABRIEKEN v.h.  
BROCADES - STHEEMAN & PHARMACIA, Hoofdkantoor Amsterdam

**Introduction.**

A case report of a series of 18 White (square-lipped) rhinoceros (*Ceratotherium simum simum*) narcotized with a morphine or Themalon and tranquillizer mixture is given below.

It is believed that this method constitutes a satisfactory approach to the immobilisation of the very large ungulates such as rhinoceros. The method has been successfully applied also to other animals including hippopotamus, black rhinoceros and elephant. No animal in this series or in a previous series of 12 captured by a different drug combination failed to recover from the narcosis.

There are indications that the narcosis induced is suitable for light surgical interference, and that this interference may be carried out without manual restraint. In many cases the animal could be handled while they were standing on their feet and further injections made or autostimulation without their evincing signs of aggression, fear or pain. These animals that were crated, entered their crates with only the minimum of coercion. An extensive wound on one animal was treated under the influence of the drug mixture.

A shorter induction time was achieved in the previous series of 12 animals with the use of Phencyclidine (Sernyl) instead of chlorpromazine as induction agent.

Prior to release into a crate the action of the principal narcotic morphine or Themalon — would be reversed by substitution with Lethidrone. The narcotic mixture is injected intramuscularly in the propeller muscle and the Lethidrone intravenously by hand.

**Case reports.**

Rhino No. 1: Sex: male

Weight: 3,500 lbs.

Dose: 1.5 mg morphine, 175 mgm. Hyoscine, 725 mgm. Largactil

Immobilisation time: 15 mins

Lethidrone: 1100 mgm

Taken to enclosure after crating and later transported 400 miles to a game park

Rhino No. 2: Sex: female

Weight: 3,000 lbs.

Dose: 1.25 mgm. morphine, 125 mgm. Hyoscine, 625 mgm. Largactil

Immobilisation time: 30 mins

Lethidrone: 400 mgm

Largactil: 140 mgm administered in crate

Taken to enclosure after crating and later transported 400 miles to a game park

\*) A. M. Harthoorn, Head of the Department of Veterinary Physiology of the University of East Africa, p.o. box 30197, Nairobi - Kenya

\*\* I. C. Flayer, Senior Ranger of the Umfolozi Game Reserve, Natal, S.A.

- Rhino No. 3: Sex: female**  
 Weight: 3,000 lbs  
 Dose: 1.5 gm morphine, 100 mgm Hyoscine, 725 mgm Largactil  
 Immobilisation time: 25 mins  
 Lethidrone: 900 mgm  
 Taken to enclosure after crating and five days later transported 400 miles to a game park
- Rhino No. 4: Sex: male**  
 Weight: 2,700 lbs  
 Dose: 1.25 gm morphine, 100 mgm Hyoscine, 725 mgm Largactil  
 Immobilisation time: 30 mins  
 Lethidrone: 1100 mgm  
 Taken to enclosure after crating and ten days later transported 300 miles to a game park
- Rhino No. 5: Recapture of a rhinoceros that had strayed from a game park**  
 Sex: female  
 Weight: 2,000 lbs  
 Dose: 1.25 gm morphine, 100 mgm Hyoscine, 750 mgm Largactil  
 Immobilisation time: 45 mins  
 Lethidrone: 700 mgm  
 Transported 30 miles immediately in crate
- Rhino No. 6: Sex: female**  
 Weight: 3,400 lbs  
 Dose: 1.5 gm morphine, 100 mgm Hyoscine, 750 mgm Largactil  
 Immobilisation time: 1 hour, 35 mins  
 Lethidrone: 400 mgm (Administered 10 hours after immobilisation and after the animal had been transported 40 miles to an enclosure)  
 This animal was not crated, but loaded direct on to the vehicle.
- Rhino No. 7: Sex: female**  
 Weight: 2,800 lbs  
 Dose: 1.5 gm morphine, 100 mgm Hyoscine, 725 mgm Largactil  
 Given extra dose of 0.25 gm morphine and 600 mgm Largactil as animal was difficult to handle when found. The original syringe struck the thoracic area and absorption hindered.  
 Immobilisation time: 55 mins  
 Lethidrone: 600 mgm  
 Transported 40 miles to enclosure in a crate. Then to a game reserve 200 miles away, a week later
- Rhino No. 8: Sex: male**  
 Weight: 4,000 lbs  
 Dose: 2.25 gm morphine, 100 mgm Hyoscine, 600 mgm Largactil  
 Immobilisation time: 27 mins  
 Lethidrone: 200 mgm and another 200 mgm 12 hours later after 200 mile journey to a game reserve  
 Largactil: 500 mgm extra given on journey.
- Rhino No. 9: Sex: male**  
 Estimated weight: 2,000 lbs, later revised to 1,000 lbs.  
 Dose: 4 gm Themalon, 125 mgm Hyoscine, 725 mgm Largactil  
 Immobilisation time: 47 mins  
 Lethidrone: Nil, was loaded direct on to lorry and taken 40 miles to enclosure

NB: Three portions of the lorry were used, completed, and we found remaining in the syringe

- Rhino No. 10: Sex: female**  
 Weight: 2,500 lbs  
 Dose: 2 gm Themalon, 100 mgm Hyoscine, 725 mgm Largactil  
 Immobilisation time: 35 mins  
 Lethidrone: 400 mgm given 10 hours after immobilisation  
 Loaded direct on to lorry and taken 100 miles to enclosure
- Rhino No. 11: Sex: female**  
 Weight: 3,000 lbs  
 Dose: 2 gm Themalon, 100 mgm Hyoscine, 725 mgm Largactil  
 Extra dose of 0.25 gm morphine, 600 mgm Largactil given as animal was struggling to rise when he was tagged  
 Immobilisation time: 25 mins  
 Lethidrone: 700 mgm  
 Extra dose of 300 mgm Lethidrone administered during 40 mile journey to enclosure.  
 Animal loaded straight on to lorry to reach the enclosure and not in crate. Taken 300 miles to a game reserve one week later
- Rhino No. 12: Sex: male**  
 Weight: 2,800 lbs  
 Dose: 2 gm Themalon, 100 mgm Hyoscine, 700 mgm Largactil  
 Immobilisation time: 40 mins  
 Lethidrone: 700 mgm  
 Animal loaded into crate and transported 15 miles to enclosure.
- Rhino No. 13: Sex: male**  
 Weight: 4,000 lbs  
 Dose: 2 gm morphine, 100 mgm Hyoscine, 700 mgm Largactil  
 Immobilisation time: 35 mins, but did not go down until 2 hrs later. Could be approached and handled, however, after 35 minutes.  
 Animal had extensive wound on leg, the treatment of which was the reason for capture. The wound was dressed, 6 mega units penicillin injected and the animal was tagged and released.  
 Lethidrone: 400 mgm
- Rhino No. 14: Sex: male**  
 Weight: 2,500 lbs  
 Dose: 3.5 gm Themalon, 100 mgm Hyoscine, 725 mgm Largactil  
 Immobilisation time: 32 mins  
 Lethidrone: 160 mgm  
 Animal transported 475 miles to game park. Complete recovery occurred without further administration of Lethidrone  
 160 mgm more Largactil was given during journey.
- Rhino No. 15: Sex: female**  
 Weight: 3,000 lbs  
 Dose: 3.5 gm Themalon, 100 mgm Hyoscine, 725 mgm Largactil  
 Immobilisation time: 70 mins (Animal was in advanced pregnancy)  
 Lethidrone: 40 mgm only  
 She got up and went over the edge of an almost vertical precipice. Another 40 mgm Lethidrone was given. The animal was then pulled up the side with a 1½" head rope and twenty porters.  
 Later transported 475 miles to a game park

Rhino No. 16. Sex: female

Estimated weight: 2,800 lbs later revised to 3,000 lbs.

Dose: 3.5 gm. Themalon, 100 mgm. Hyoscine, 725 mgm. Largaetil.

Immobilisation time: 35 mins.

Lethidrone: 360 mgm.

Transported 12 miles to enclosure in a crate.

Rhino No. 17. Sex: male

Weight: 2,700 lbs.

Dose: 4 gm. Themalon, 125 mgm. Hyoscine, 725 mgm. Largaetil.

Immobilisation time: 60 mins.

About 10% of the drug dose remained in the syringe after injection.

Lethidrone: (just enough to enable him to get up and walk into the crate.)

Later transported 475 miles to a game park.

Rhino No. 18. Sex: female

Weight: 2,900 lbs.

Dose: 4 gm. Themalon, 125 mgm. Hyoscine, 725 mgm. Largaetil.

Immobilisation time: 20 mins.

Lethidrone: 120 mgm.

Animal was led out of a deep donga on to a flat plain before entering the crate.

Transported 475 miles to a game park.

#### Chemical names of drugs used.

Scopolamine = Hyoscine hydrobromide (B.P.).

Themalon = Diethylthiambutene hydrochloride (Burroughs, Wellcome & Co).

Largaetil = Chlorpromazine hydrochloride (May & Baker Ltd.).

Lethidrone = Nalorphine hydrobromide (Burroughs, Wellcome & Co.).

Morphine = Morphine sulphate B.P.

Phencyclidine = 1-(1-Phenylcyclohexyl) piperidine monohydrochloride (Parke, Davis & Co.).

#### SUMMARY.

##### Narcosis of the white Rhinoceros

by A. M. Harthoorn and I. C. Player.

A series of 18 White (square-lipped) rhinoceros (*Ceratotherium simum simum*), narcotized with a morphine or Themalon and tranquilizer mixture are given.

It is believed that this method constitutes a satisfactory approach to the immobilisation of the very large ungulates such as rhinoceros. The method has been successfully applied also to other animals including hippopotamus, black rhinoceros and elephant.

No animals in this series, or in a previous series of 12 captured by a different drug combination, failed to recover from the narcosis.

#### SAMENVATTING.

##### Narcose bij de witte Rhinoceros

door A. M. Harthoorn en I. C. Player.

Een serie van 18 Witte Rhinocerosen werd genarcotiseerd met morphine of Themalon en een mengsel van tranquillizers.

Dit is een zeer bevredigende wijze van immobiliseren van grote Ungulaten zoals Rhinocerosen, die tevens met succes is toegepast bij nijlpaarden, zwarte rhinocerosen en olifanten.

Alle dieren van deze serie, evenals die van een voorgaande groep van 12 dieren die d.m.v. een andere combinatie van farmaca werden gevangen, herstelden van de narcose.

#### RÉSUMÉ.

##### Narcose chez Rhinocéros blancs

par A. M. Harthoorn et I. C. Player.

Un groupe de 18 rhinocéros blancs à la lèvre carrée (*Ceratotherium simum simum*), a été narcotisé à l'aide d'une mixture de morphine ou de Themalon et de calmants. On voit dans cette méthode un excellent moyen d'immobilisation des grands ongulés, comme les Rhinocéros.

La méthode a été appliquée avec succès chez d'autres animaux, tels que les hippopotames, les rhinocéros noirs et les éléphants.

Tous les animaux de ce groupe et d'une groupe précédent de 12 animaux, auxquels ont été administrés des combinaisons différentes de médicaments, ont très bien supporté la narcose.

#### ZUSAMMENFASSUNG.

##### Narkose beim weissen Nashorn

von A. M. Harthoorn und I. C. Player.

Eine Reihe von 18 weissen vier-eckiglippigen Nashörnern (*Ceratotherium simum simum*) wurde mit Morphin oder eine Mischung aus Themalon und einem Beruhigungsmittel betäubt.

Wir glauben, dass diese Methode ein befriedigendes Mittel für Immobilisation der sehr grossen Huftiere, wie Nashörner, darstellt. Die Methode wurde auch erfolgreich bei anderen Tieren, einschliesslich Nilpferden, schwarzen Nashörnern und Elefanten angewandt.

Alle Tiere dieser oder eines vorhergegangenen Serien von 12 Tiere, in denen andere Drogenverbindungen angewandt wurden, erholten sich gut von der Narkose.

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