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PRACTICAL IMMOBILIZATION TECHNIQUE OF BLACK AND WHITE RHINO USED BY SOUTH AFRICAN NATIONAL PARKS

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Extended abstract

Black rhino (*Diceros bicornis*) and white rhino (*Ceratotherium simum*) are frequently immobilized and translocated by the Veterinary Wildlife Services Unit (VWS) of South African National Parks (SANParks). The two species occupy overlapping habitats but differ considerably in their social behaviour, diet and response to the drugs used. Knowledge of these differences is essential for any successful capture and translocation of these species.

White rhino are gregarious grazers and respond fairly predictably to the selected drugs when captured. M99 (etorphine) and azaperone are used routinely for all immobilizations on white rhino. Hyalase is added to the initial cocktail to improve absorption and reduce knockdown time. White rhino are very sensitive to the respiratory depressive effects of the opioid drug (M99) and the animal is partially reversed soon after immobilization to counter this negative effect. This is achieved by using nalorphine (partial antagonist/antagonist) and M50-50 (Diprenorphine – a more potent antagonist/agonist). This state of near anaesthesia is used to walk the rhino into its transport crate. During transit M50-50 is given, which produces a tranquilised state of recovery. Long-acting tranquilizers like Cloxipol Acuphase tranquilize the rhino for 3 days and assist with reducing long distance transport stress including acclimatisation stress after release. Naltrexone (pure antagonist) is given before release so that no re-narcotization takes place. SANParks move up to 100 white rhino per year successfully using this immobilization technique.

Black rhino are complex social animals. They are browsers and live in thick bush, making immobilization difficult. They are habitually more aggressive than white rhino and respond better to the drugs used. Higher doses of M99, azaperone and cloxipol acuphase tranquilizer are used than in white rhino. They are also more responsive to the reversal drugs and for walking and transport only the weak partial antagonist nalorphine is used. No reversal with M50-50 is given during transit to obtain the maximum state of tranquilization from the partial antagonism. The key to successful black rhino translocation is to protect the animal from itself and its highly aggressive nature. Release into holding facilities requires careful planning and use of the different drugs. A very low dose of M99, with high doses of azaperone is given before release from the crate so that a near immobilized state is achieved. This results in the animal calmly walking out of the crate into its new surroundings. Should the animal become immobilized after release, then IM administration of M50-50 adequately reverses this state. Naltrexone is only used as a reversal (preferably IM) when short procedures are done in its normal environment

and when all disturbances can be removed before the animal is reversed. Introduction of black rhino into established populations is far more difficult than white rhino due to the increased incidence of aggression between individuals that do not know each other.

The knowledge of the different behaviour and nature of the two species is extremely important to ensure that they are successfully captured, immobilized, transported and then released.

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