Hornless rhinos: dreams and realities

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Who is Saving the Survivors?

UP

SAVA

Private
Support and assist local veterinarians
Gain knowledge by treatment and research
Knowledge to be transferred to all veterinarians

“… poaching will only increase in the near future and methods will have to be devised to assist and support injured animals” – Dr Pete Morkel
Equipment sourced – **STS Rhino Support Unit**

Karl Storz 2,5 m endoscopy unit – R260 000-00
Elephant laparoscope unit – R352 000-00
PPS/Profmed grant – R130 000
SAVA – R50 000-00
SAVF – R50 000-00

Anatomy specimens
Hardware/Software – R200 000-00
Equipment needed – **STS Rhino Support Unit**

- 4x4 Vehicle
- 4x4 Trailer
- Research funds
- DR system – R1 200 000-00
- Ultrasound system – R650 000-00
- Compressor

![Image of rhino and two people]

**dnata**
Day 29
Day 33
Day 75
Day 225 (approx. 7.5 months)
Beginning July 2013
September 2013 (18 months)
Endoscopy of sinuses
Day 1

DD

LD
Day 44

DD

LD
Day 57

DD

Difference NB aro myiasis

LD

Covering came off…
Day 57

DD
Day 70

DD

LD
Problems experienced

1. Semi-permanent covering of wound

2. Pulling out of screws / amount of screws

3. Rubbing of covering

4. Sensitivity of horn area
1. Semi-permanent covering of wound

2. Pulling out of screws / amount of screws

3. Rubbing of covering

4. Sensitivity of horn area
Covering of wound
Covering of wound – Skin flaps?
Problems experienced

1. Semi-permanent covering of wound

2. Pulling out of screws / amount of screws

3. Rubbing of covering

4. Sensitivity of horn area
Screw placement and size

4 mm cancellous screws

6.5 mm cancellous screws, with larger washers
Problems experienced

1. Semi-permanent covering of wound

2. Pulling out of screws / amount of screws

3. Rubbing of covering

4. Sensitivity of horn area
Rubbing of face
Problems experienced

1. Semi-permanent covering of wound

2. Pulling out of screws / amount of screws

3. Rubbing of covering

4. Sensitivity of horn area
Infraorbital nerve block – White rhino
Infraorbital nerve block
Infraorbital nerve block
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Infraorbital nerve block
White rhino KZN – poached, never treated….
White rhino KZN – poached, never treated….
Major problems facing rhino in South Africa

- Land availability
  - Specific requirements
  - Capacity
  - Perimeter fence

- Poaching
  - Increase incidence
  - Costly security
Rhino poaching

- Increasing
- Unsustainable
- 2016 (Ferreira et al. 2012)
Rhino horn

Anatomy
  – Keratin
  – No bony core

Uses

Efforts against rhino poaching

Efforts relating to the environment
  – Security measures

Efforts relating to the animal
  – Translocation
    • Increase rate of reproduction
    • Find safer areas?
  – Horn adulteration?
  – Dehorning
    • Conventional
    • Surgical?
Dehorning of rhino

Why do rhinos have horns?
Population dynamics
Reproductive fitness
Protection - predators
Fate of calves?

Rhino calves

- Killed
  - Nuisance
  - Horn stump
- Orphans
  - Dies of natural causes
  - Hand reared
    - Introduced back into the wild
    - Habituated animals
    - Exported
    - Dies of natural causes/disease

Value in terms of conservation of the species?
Can these calves NOT play a role in terms of the conservation of the species?

Capital expenditure
- Food (15k/month)
- Veterinary care
- Facilities

Time expenditure
- 18 months
Permanent removal of rhino horn

Not routinely done at the moment
Consequence of poaching
Disease or trauma
Renders the animal hornless – lifelong
Offspring horned!
Dehorning of orphaned rhino calves

Orphans from various geographic areas
Removal of horn bed *in toto*
Burning unpredictable and ethics?

Hieronymus *et al.* 2006. *Journal of Morphology*
Rostral (front) horn
Caudal (back) horn
Horn deformations

Poor quality

Nutrition?

Stress?
Construction of a herd/s

Dehorned orphans to go to a secure location
Responsible rehabilitation
Construction of herds
  – Lesson on delinquents (males)
  – Utilising poached individuals
Rehome dehorned rhinos
Space for dehorned rhinos

Priority rhino protection zones
SANDF
Provincial parks
Game farms

*Intra* specific
*Inter* specific
Ownership?

A national asset?
Private ownership - Trust
What will happen to offspring?
Contribution to the conservation of the species?

- Education
- Range extension
- Animals in a low risk group that can be used for introductions (Genetic banking)

www.savingrhinos.org
Steps needed

Research NB!
- Describe histo-anatomy of horn growth
- Formalise surgical technique
- Apply for AEC approval
- Potential cases from Freestate NC
- Start with young individuals
- Pain relief?
- Antibiotics?

Herd structure
Herd integration
Behaviour
Delinquents
a BIG thank you…

Adcock Ingram
Allistair Lamont
Brown Family and their entire network
Covidien
dnata
EWT and Walter Hirzebruch
Havas International
Health and Hygiene - Linda Muller
PPS/Profmed
Roth Medical
SANParks
SAVA
SAVF
SuperVet
TecVet – Rai Landau
Veterinary colleagues - Will Fowlds, Peter Rogers, Jana Pretorius, Pierre Nel, Louis Greef, Alex Lewis
Veterinary sisters - Jana Stander and Michelle Cruywagen
UP
Our families!