



Camilla Weyer

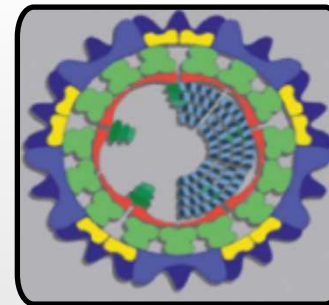
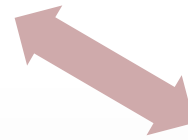
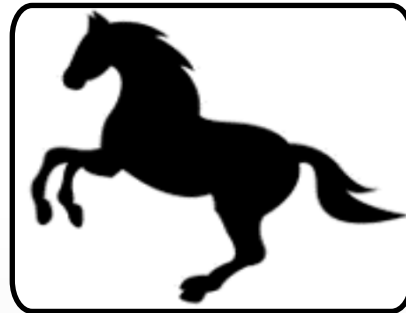
AHS control manager and research veterinarian, RSA

African horse sickness treatment and prevention



WORLD ORGANISATION FOR ANIMAL HEALTH *Protecting animals, preserving our future*

Preventative Measures



Preventative Measures

1. Movement restriction/ control
2. Census / traceability
3. Euthanasia / isolation of viraemic animals
4. Stabling
5. Vector control
6. Vaccination



Movement Control



- Quarantine of affected properties
- Prevent movement of viraemic hosts
- Free countries/ zones
 - strict control of entry of equids
- Outbreak zones/ infected zones
 - Control of movement within
 - Prevent movement of infected horses out of zone unless appropriate quarantine measures applied
- Census
- Traceability – microchips / equine passports

Euthanasia

- **Slaughter of infected or suspect animals**
 - Limit infection of potential *Culicoides* vectors by viraemic animals
 - Most effective if practiced together with widespread testing
- **Not practiced in endemic countries**
 - movement restriction, vaccination and insect repellent
 - Increasing reporting compliance → overreporting
- **Ethical considerations?**
- **Compensation to owners?**
- **Considered for severe cases**
 - welfare



Stabling

- Protection of uninfected animals
- Isolation of infected animals
- Goal: Reduce midge access to horses
- Some implicated vectors may enter stables (endophilic)
- Stabling is only effective if stables are adequately closed



Stabling

- Meshing of stables with 80% shade-cloth
- pyrethroid Impregnated
- Course spray daily
- Automatic dispensers



Stabling



- Stabling from ‘dusk to dawn’
- At least hour before sunset to hour after sunrise
- Evidence of insect activity throughout day
- Continuous stabling on affected farms
- Limited outside time around midday
- Welfare issues? – Colic? Laminitis?

Stabling

- **Double-door system**
 - Step-wise entry
 - Allows for spraying handlers
 - Allows for feed treatment
- **Ventilation and fans**
 - Prevent midge entry into stable
 - Decrease flight activity
 - Improvement of air quality
 - Decreases heat



Vector Control

- Application to the horse
- Insecticide
 - Synthetic pyrethroids
- Insect repellent
 - DEET
 - Lemon eucalyptus oil
 - Neem oil
 - Citronella -

} Natural alternatives

Not effective against Culicoides



Vector Control – breeding sites

- **Culicoides spp. moist, organically rich-soil**
- **some cattle, buffalo, wild ruminant dung**
- **Repair water troughs**
- **Move horses away from breeding sites ('move to higher ground')**



Vaccination

- Polyvalent and monovalent vaccines
- Live attenuated – commercially available
- Vaccine viraemia
- Risk of reversion to virulence and reassortment
 - Wild type and vaccine type



African Horse Sickness Caused by Genome Reassortment and Reversion to Virulence of Live, Attenuated Vaccine Viruses, South Africa, 2004–2014

Camilla T. Weyer, John D. Grewar, Phillippa Burger, Esthea Rossouw, Carina Lourens,
Christopher Joone, Misha le Grange, Peter Coetzee, Estelle Venter,
Darren P. Martin, N. James MacLachlan, Alan J. Guthrie

Vaccination in the face of an outbreak

- Recommended only after serotype identification
- Polyvalent / Monovalent vaccine
- Identification/ traceability of vaccinated animals
- Response must be decided by veterinary services of affected country/ zone.



Treatment

- Based on supportive treatment
- Strict REST, no stress
- Strict quarantine and no movement



Treatment

- **Nonsteroidal anti-inflammatories**
 - hydration status and gastric ulceration considered
- **Cardiac support**
 - positive inotropes?, ACE inhibitors? and diuretics?
- **IV fluids – colloids**
 - increase pull of fluids into blood vessels
- **Corticosteroids? Antimicrobials?**

Treatment

- **DMSO**

- scavenge free oxygen radicals → lack of strong evidence, but safety is supported.

- **Vitamin boosters**

- B group – immune support?
- Vitamin E, Vitamin C – antioxidant effects?

- **Immunostimulants?**

- **Homeopathic / Herbal remedies??**

Treatment

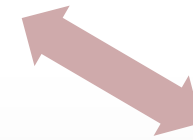
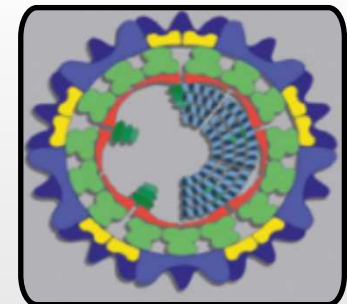
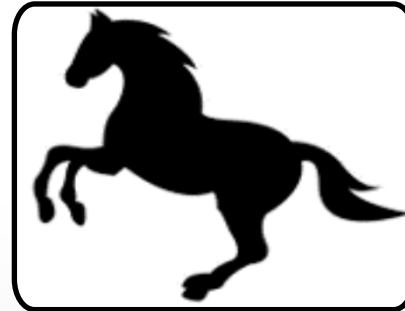
- **IV Formalin**
- **IV Sodium chlorite**
- **IV Hydrogen peroxide**
- **IV colloidal silver**

Not supported
scientifically or on
welfare aspect

Summary

Measures to reduce risk

- Movement restriction
- Isolate from vector/
euthanase infected
case(s)
- Stable horses
- Protect stables with
mesh
- Apply insecticides
(alphacypermethrin)
- Apply repellent
(DEET)





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