

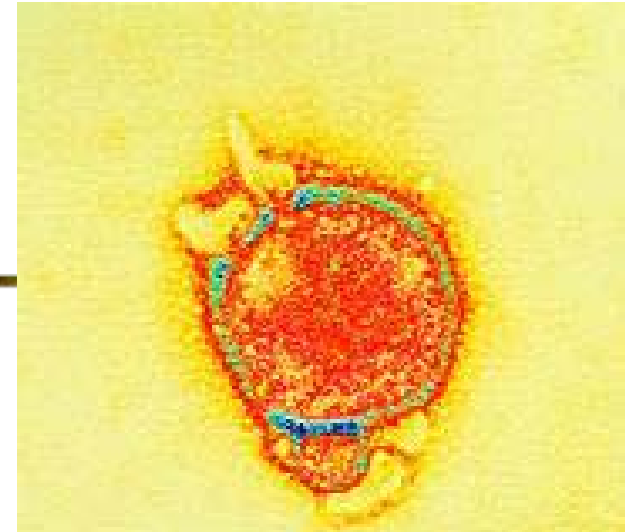
Minimising the risks: A shared responsibility

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Hendra incidents



Location	Date	Horses	People
Mackay	Aug 1994	2	1 (died 1995)
Hendra	Sep 1994	20	2 (1 died)
Cairns	Jan 1999	1	
Cairns	Oct 2004	1	1
Townsville	Dec 2004	1	
Peachester	Jun 2006	1	
Murwillumbah, NSW	Oct 2006	1	
Peachester	Jun 2007	1	
Clifton Beach (Cairns)	Jul 2007	1	
Redlands	Jun 2008	5	2 (1 died)
Proserpine	Jul 2008	3	

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Risk

- Combination of:
 - Likelihood X Consequence

- Risk tolerance
 - Subjective
 - Individual variation
 - Influenced by wide range of factors

Previous human cases

- 1994 & 1995: Hendra virus was unknown
 - no precautions taken against Hendra
- 2004 (Cairns)
 - post mortem, Hendra not suspected
 - Vet later developed signs & tested positive
 - Horse not suspected until after Vet tested positive

Previous human cases

- 2008 Redlands
 - Vet & Vet nurse infected
 - Horses were being treated, handled, examined, and post-mortemed
 - lot of interest in particular activities such as flushing a nasal lesion
 - Public health investigation indicated that at least one of the two was likely to have been infected by a horse that was incubating the disease

Previous human cases

- 2008 Proserpine
 - Vet suspected Hendra when client reported deterioration & death of the horse
 - Vet called DPI and received instructions
 - Vet used PPE & precautionary approach to post mortem
 - Horse was positive

Possible exposure pathways for vets

1. Horse that is severely ill or dead with signs consistent with Hendra
 - Vet is concerned about Hendra
 - Takes precautions before approaching the horse
2. Horse presents with non-specific signs (mild, severe or sudden death)
 - Hendra is not suspected when Vet first approaches horse
 - Risk of exposure depends on activities/procedures
3. Horse that is apparently healthy yet is incubating Hendra
 - Vet involvement for other reasons
 - Exposure risk much more variable & generally lower

Exposure risk

- Hendra virus is present in fluids & tissues in infected horses
 - blood, saliva, nose/mouth, urine, tissues
 - Virus is shed in horses as they transition from incubation to clinical signs
 - Virus shedding/secretion maximal around the time of death
- Splash/droplet risk and not aerosol
- Risk depends on:
 - horse factors: stage of infection, localisation of virus, amnt being shed...
 - Vet: what procedures are being done, level of PPE & biosecurity

Can we identify infected horses?

- Underlying pathogenesis is via virus effects on endothelial cells
- Clinical signs may then depend on which organs are most severely affected first (resp vs GIT vs neurological etc)
- Signs may be variable & non-specific
- Hendra is rare and most cases that show signs consistent with Hendra will NOT be cases
- Tomorrow's case may not look like priors
- It seems unlikely that we will be able to better pick Hendra cases earlier in the future

Managing exposure risk given what we know now

- Everyone who contacts a horse is bearing some risk – **shared responsibility**
- Vets bear higher risk because of activities & procedures and associated contact with potentially infectious material

Veterinary responsibilities

- Workplace health and safety
 - staff – veterinary associates, veterinary nurses, support staff
 - horse owning clients
- Notification of authorities if a case is suspected

Risk-based approach

- Develop a risk-based approach to horse practice
- Risk management has to be implemented prior to the time when Hendra might be suspected
- Rapid tests are not a solution to initial veterinary risk management
- Depends more on identifying:
 - activities or procedures with associated risk
 - horse history & signalment

Risk-based approach

- Activities or procedures with higher associated risk
 - exposure to blood, urine, nasal/oral secretions, internal organs, ...
 - Biosecurity: hygiene, PPE, disinfection, ...
- Activities associated with lower risk
 - lameness, physical exam, ...
 - Reduced level of biosecurity

Complexities of managing veterinary risk

- Concepts vs practical difficulties
 - if hendra is listed as a differential then DPI vet must be notified. What quarantine/response measures should be imposed while waiting for a test result?
 - what do vets do about clients that hold a horse or help in the field?
 - what are the ramifications for practice design, flows and day-to-day management?
 - vet schools, other training centres/unis, abattoirs, ...

Future

- Simple PPE & biosecurity that can be used routinely & varied according to risk
- Training in PPE & biosecurity
- Awareness campaigns for all stakeholders
- Work with PIF (DPI) & other stakeholders to manage the notification & response alerts
- Research to address issues that will help manage risk
 - understanding spillover events & how to reduce risk
 - behavioural research on adoption of change
 - testing: test availability, speed
 - vaccine & treatment

