

Equine Influenza



NEW ZEALAND EQUINE HEALTH ASSOCIATION

“Protecting the Health of all New Zealand Horses”

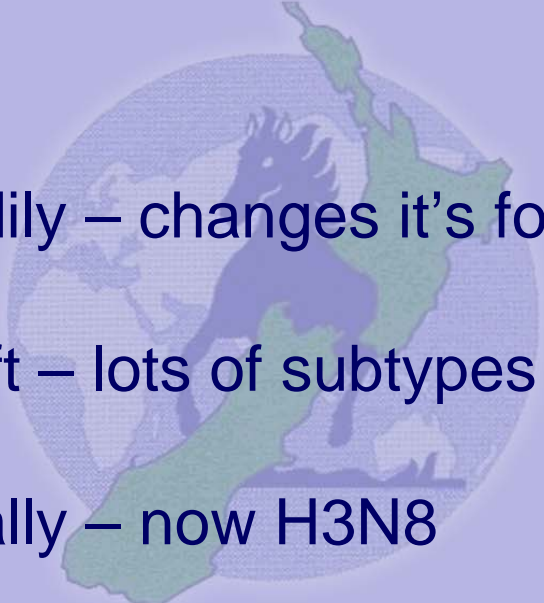
Equine Influenza

- Highly contagious viral disease of equidae (horses, donkeys, mules and zebras)
- Affects the respiratory tract
- High morbidity but low mortality
- No carrier state
- Does not affect humans



Equine Influenza

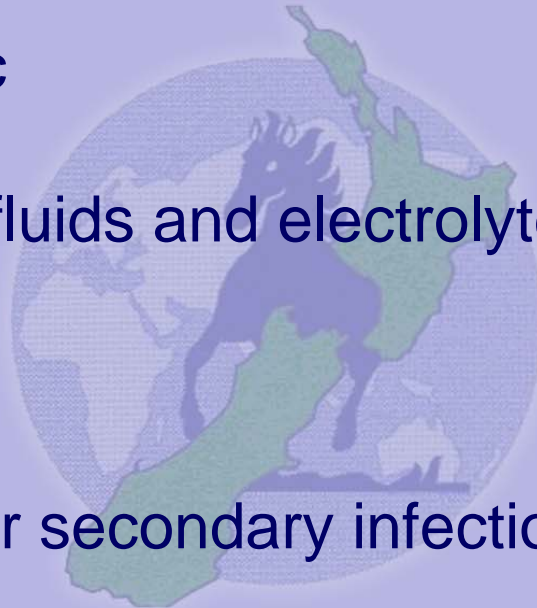
- **The virus**

- Lipid coated
 - Mutates readily – changes it's footprint
 - Antigenic drift – lots of subtypes
 - H7N7 originally – now H3N8
 - Two distinct lineages – European and American(3)
 - Human influenza experience
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Equine Influenza

- **Treatment**

- Symptomatic
- Hydration - fluids and electrolytes
- NSAIDs
- Antibiotics for secondary infections



Equine Influenza

- **Transmission**

Aerosol from coughing horses:

From day 2 for 6-7 days can travel 32 m ?

Survival


Cloth:	8-12 hrs
Environment:	8-36 hrs
Equipment:	24-48hrs
Urine:	5 days
Water:	18 days at 22.C

Fomites

People:	person and clothing
Equipment:	horse gear, service equipment
Vehicles	
Birds?	

Equine Influenza

- **Disease Symptoms**

- Very short incubation period 1-3 days
 - High temperature 2-4 days, off food, loss of weight
 - Watery nasal discharge becoming pus
 - General muscle soreness
 - Deep unproductive persistent cough
 - Duration 3 weeks – easily exacerbated
 - Full recovery prolonged?
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Equine Influenza

- **Biosecurity Measures** (with disease)

- Movement control

- Containment

- Cleaning:

Lots of water
Soap and water

- Disinfection:

Virkon at 2% (not on skin)
Phenolytic or Iodophor
Lysol
Formalin



Equine Influenza

- **Biosecurity Measures** (disease free)

- Horses

Import Health Standards (IHS)

3 weeks pre export isolation (PEI)

2 weeks post arrival quarantine (PAQ)

- People (From infected area)

Wash

Clean clothes and footwear

Away from horses for 72 hours

Equine Influenza

- **Vaccination**

- Killed or inactivated

- Multiple strains

- No pathogenicity, virus replication and spread

- Two IM shots 4-6 weeks apart – immunity 2 weeks

- Boosters dependant on risk exposure but annually



Equine Influenza

- **Vaccination**

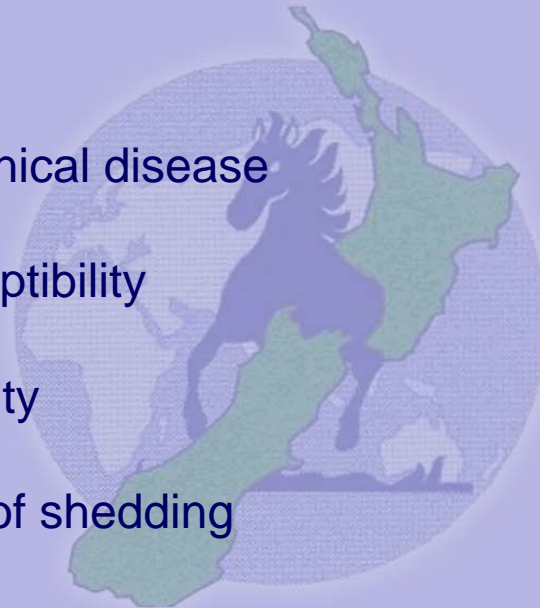
- Live modified vaccine
 - **Safe through process of attenuation**
 - **Intranasal administration**
 - **Risk of viral spread**
 - **Early immunity from 7 days**
 - Recombinant vaccine
 - **Different technology and approval process**
 - **Genes from EI virus inserted into canary pox virus**
 - **Intramuscular administration two weeks apart – 6mth booster**
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Equine Influenza

- **Vaccination**

Advantages

- Can prevent clinical disease
- Reduces susceptibility
- Reduces severity
- Reduces level of shedding
- Helps reduce farm to farm spread
- Reduces overall population prevalence



Equine Influenza

- **Vaccination**

Disadvantages

- **Need to get close to infection subtype**
 - **Masking clinical signs – I.D. and monitor**
 - **Sereological monitoring is difficult**
 - **Movement of sub-clinically infected horses may spread infection**
 - **Prolonged movement restrictions**
 - **Will require more logistical support and bureaucracy**
 - **Level of vaccination required for population protection**
 - **Cost**
 - **Ongoing program**
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