



Strangles – the disease and management

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Strangles - Overview

- Clinical Signs
- Diagnosis
- Management
- Prevention and biosecurity



The Changing Face of Strangles

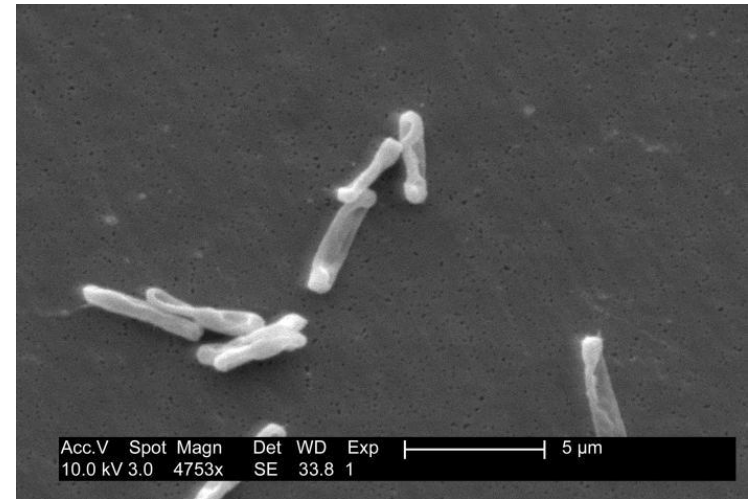
- Emergence of subclinical disease
- Development of diagnostic tests
- Re-launch of vaccine

Strangles – The Disease

- Highly contagious disease
- One of the three most significant respiratory infections in the world
- The most commonly diagnosed bacterial disease in horses
 - UK estimates 200-400 outbreaks / year
 - Sweden ratio of strangles:flu between 4:1 and 5:1
- ...but not notifiable

Strangles – The Disease

- Respiratory illness
- Caused by the bacterium *Streptococcus equi*
- Unique to the horse family
- First described in 1251
- Occurs in horses of all ages
- Major economic loss to the equine industry and very disruptive to yards / owners



Strangles – The Disease

- Spread by
 - **Direct contact:** horse-to-horse including carriers
 - **Indirect contact:** water, tack, clothing, stable equipment & even stable cats/dogs!



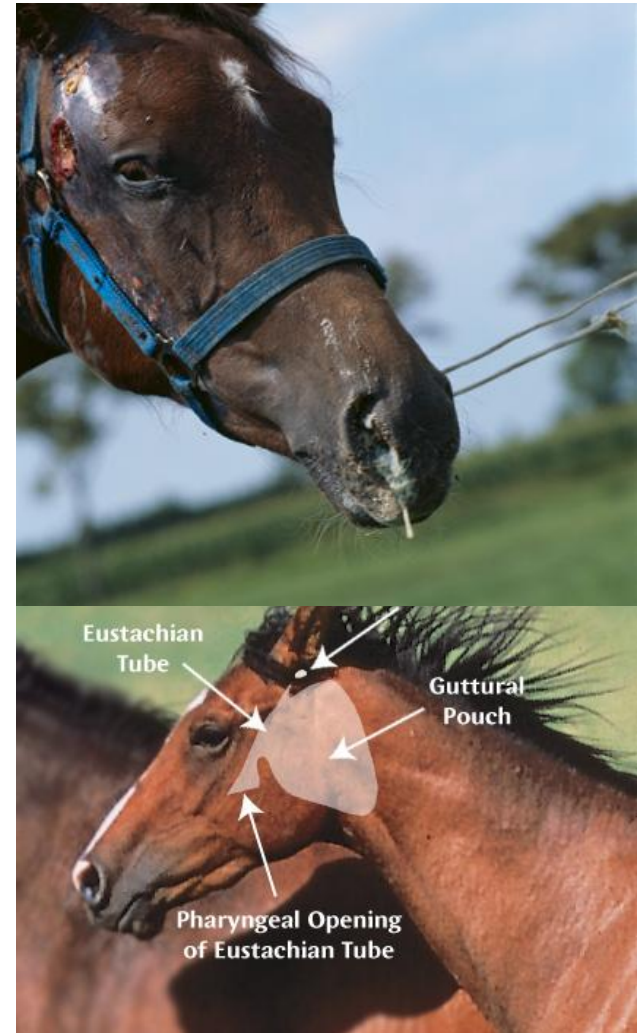
Strangles – Classical Signs

- Clinical signs include:
 - Fever (>104 F or 40 C)
 - Nasal discharge
 - Lack of appetite
 - Cough
 - Swollen lymph glands
 - Death can occur in approximately 1%



Strangles – The Disease

- Symptoms develop 3-14 days after exposure
- Abscesses form 1-2 weeks later
- Abscesses last 3-4 weeks
- May spread to, and remain in, the guttural pouches



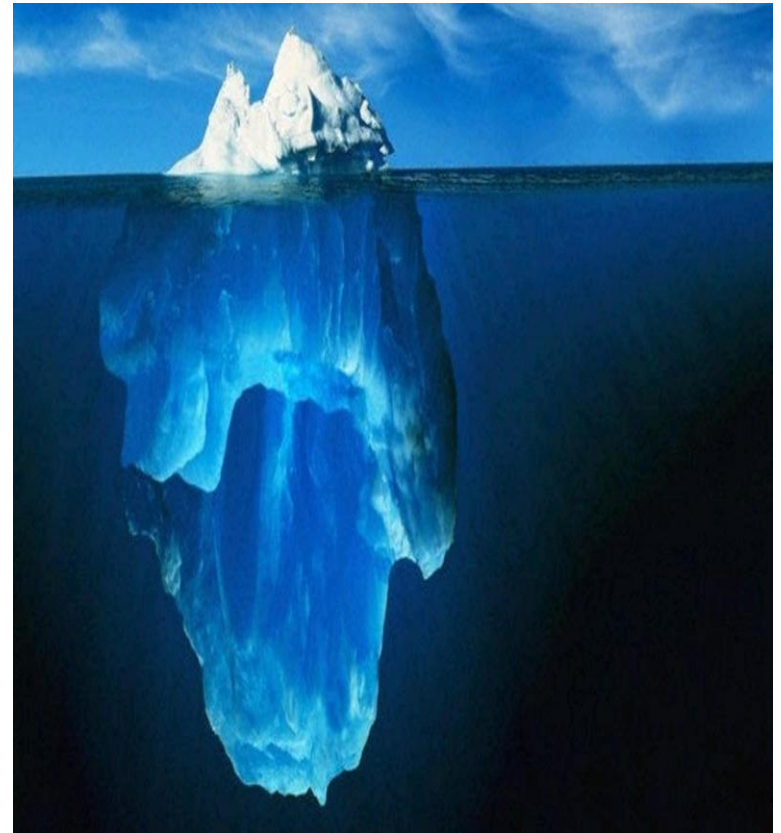
Strangles – Different Forms

- Typical strangles
- Atypical or subclinical strangles
- Bastard Strangles
 - Up to 10%
 - Systemic abscesses
- Purpura haemorrhagica
 - Serious but rare disease
- Carriers



Atypical, Subclinical Strangles

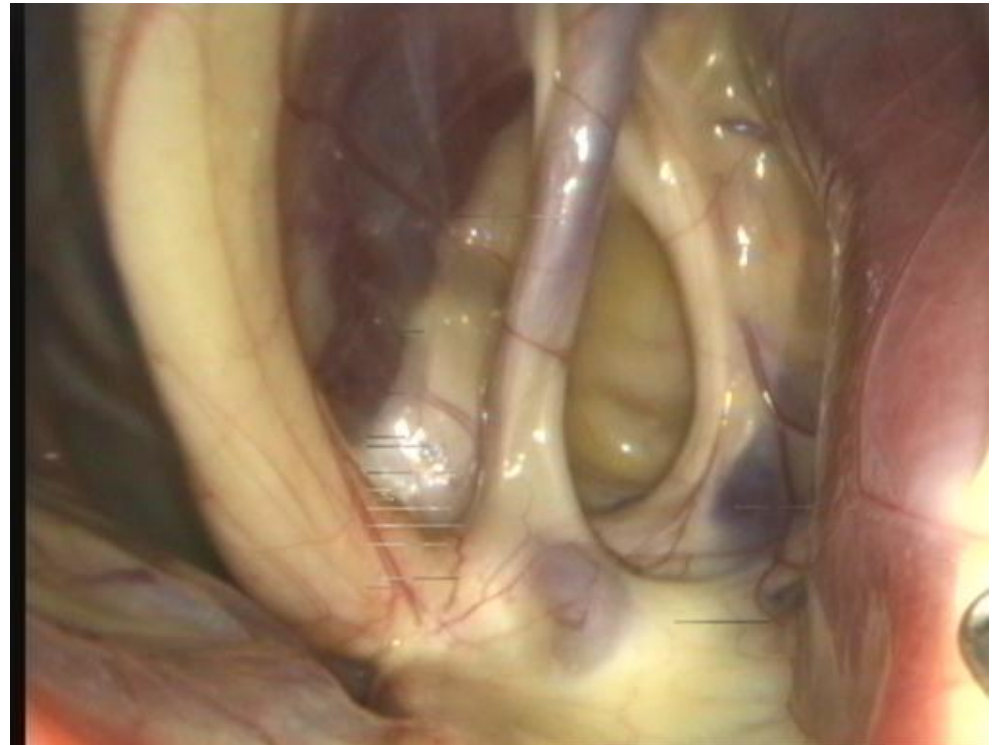
- 'Flu-like symptoms
- Dull, slightly off food
- Mild fever (102 F, 39 C)
- +/- lymph node swelling
- +/- nasal discharge
- Cough
- May last for less than 12 h
- Under-diagnosed



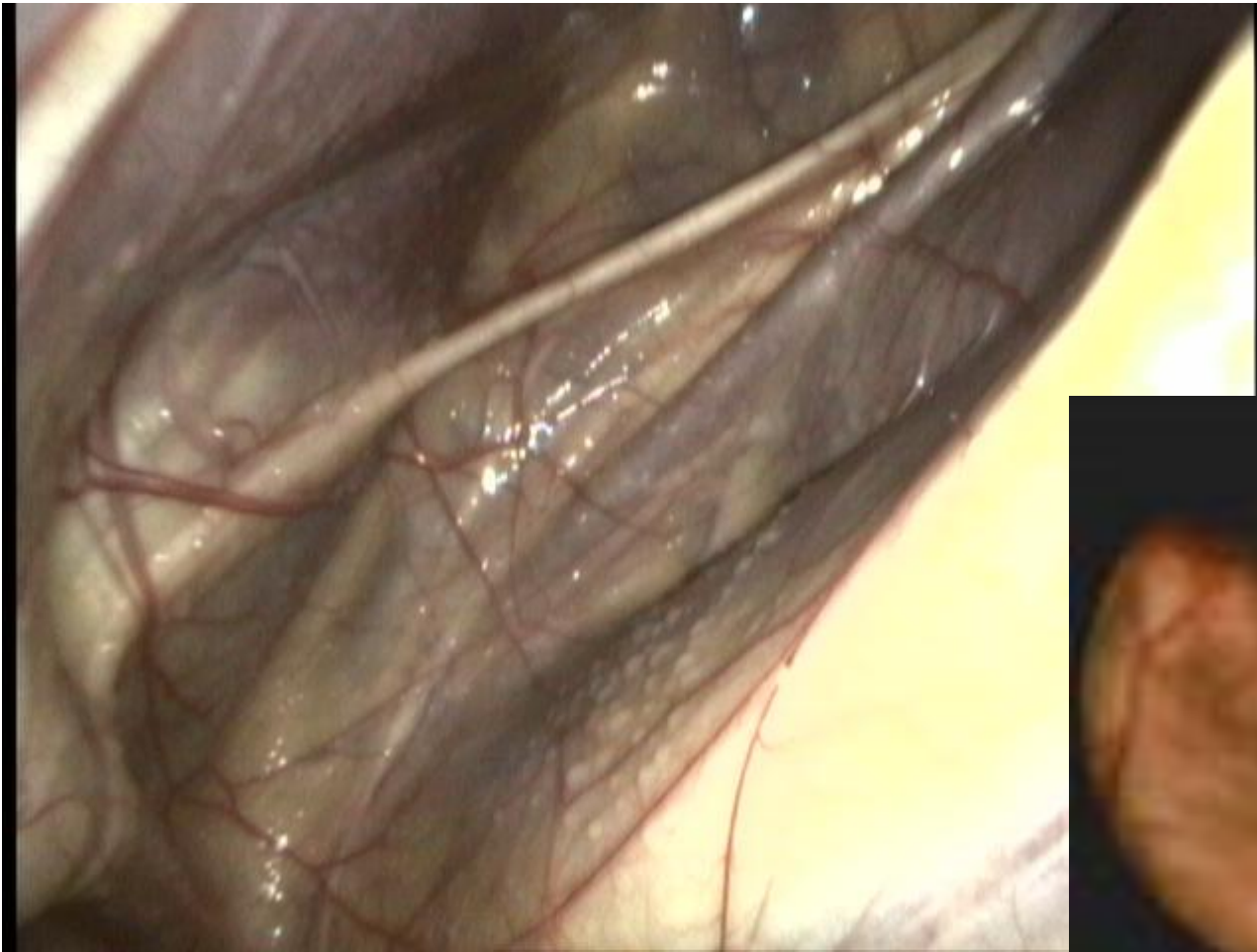
Strangles - Carriers

- **Carriers**
 - Around 10% of horses
 - Guttural pouches harbour infection
 - No external signs
 - Intermittently shed bacteria for months
 - Source of infection to others
 - Must be identified and treated to prevent further outbreaks

Strangles - Carriers



Strangles - Carriers



Strangles - Diagnosis

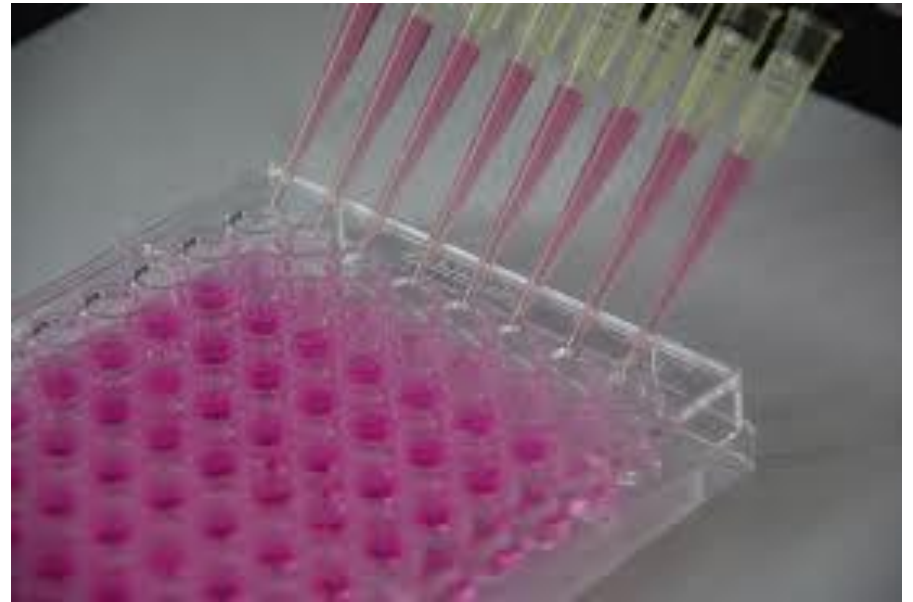
- Samples
 - Swab from abscess
 - Nasopharyngeal swab
 - Guttural pouch lavage
 - Blood sample
- Laboratory tests
 - Culture
 - PCR
 - Antibody levels



When will I get the results?



Culture: 3-5 days



PCR: 1-3 days

Blood Test : 1-3 days

Strangles - Diagnosis

- Samples
 - Swab from abscess →
 - Nasopharyngeal swab →
 - Guttural pouch lavage →
 - Blood sample →
 - Laboratory tests
 - Culture
• PCR
 - Identifies presence of *Strep equi* bacteria
 - Antibody levels
 - Tells us if horse has been infected
-
- ```
graph LR; S1[Swab from abscess] --> T1(Culture); S1 --> T2(PCR); S2[Nasopharyngeal swab] --> T1; S2 --> T2; S3[Guttural pouch lavage] --> T1; S3 --> T2; S4[Blood sample] --> T3[Antibody levels];
```

# Strangles – Using the Tests

| Sample                | Clinical Diagnosis | Identification of Exposure | Detection of Carrier | Price   |
|-----------------------|--------------------|----------------------------|----------------------|---------|
| Swab from abscess     | ✓                  |                            |                      | £48.47  |
| Nasopharyngeal swab   | ✓                  |                            |                      | £48.47  |
| Guttural pouch lavage |                    |                            | ✓                    | £278.13 |
| Blood sample          |                    | ✓                          |                      | £53.26  |

\*Current price, including VAT but not visit fee. Subject to change.

# Strangles - Treatment

- Antibiotics
  - can increase likelihood of horse becoming a carrier
  - best to use penicillin in very early stages
- NSAIDS – bute, Danilon
- Hot compresses, lancing and irrigation of abscesses
- Encourage horses to eat from the floor

# Strangles – Outbreak control

- Strict procedures
- Yard guidelines
- Clear rules
- Apply to all
- Strong leadership and great communication are essential

# Strangles – Outbreak Control

- Early detection (swabs etc)
- Strict quarantine and isolation
- Cessation of all horse movements – close the yard
- Separate horses into groups
  - Red – infected, clinical signs
  - Amber – have been in-contact with infected horses
  - Green – not exposed

# Strangles – Outbreak Control

- Quarantine
  - Suitable location (10-25 m from other horses)
  - Clear identification of borders
  - Appropriate hygiene and disinfection
- Monitor temperatures twice daily
- Keep yard closed until advised otherwise

# Strangles – Opening Up Again

- Four weeks after last clinical case or signs
- Blood test all horses
- Those with positive results are potential carriers, identify by
  - sample guttural pouches, or
  - 3 nasopharyngeal swabs at 5-7 d intervals

# Identifying Carriers

| Sample                  | Accuracy | Time    | Price*  |
|-------------------------|----------|---------|---------|
| Nasopharyngeal swab x 3 | 95%      | 3 weeks | £145.41 |
| Guttural pouch lavage   | 95%      | 3 days  | £278.13 |

\*Current price, including VAT but not visit fee. Subject to change.

# What to do with carriers?

- Remove any chondroids
- Infuse penicillin into guttural pouches
- Re-test in 2 weeks
- Some horses may require a second treatment
- Usually covered by insurance

# Preventing Strangles – What is the risk?

|                                                           |                                                           |                                                     |                                                       |
|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------|
| Single horse                                              | Multiple horses                                           | Multiple horses & owners                            | Large yard; Livery yard                               |
| No contact with other horses                              | Occasional contact with horses of known health status     | Regular contact with horses of known health status  | Frequent contact with horses of unknown health status |
| No new arrivals into yard                                 | New arrivals unusual                                      | New arrivals several times each year                | Frequent new arrivals; high throughput of horses      |
| No previous strangles                                     | No previous strangles                                     | Previous strangles; but investigations for carriers | Previous strangles; no investigations for carriers    |
| Annual health plans/preventive health plans in place      | Quarantine of new arrivals with testing                   | Quarantine of new arrivals but no testing           | No quarantine or testing of new arrivals              |
| Separate water troughs                                    |                                                           |                                                     | Communal water troughs; shared feed utensils          |
| No personnel traffic between horses, biosecurity in place | Little personnel traffic between horses, with biosecurity | Personnel traffic between horses, with biosecurity  | Personnel traffic between horses, no biosecurity      |

Low risk (disease unlikely)

High risk (disease more likely)



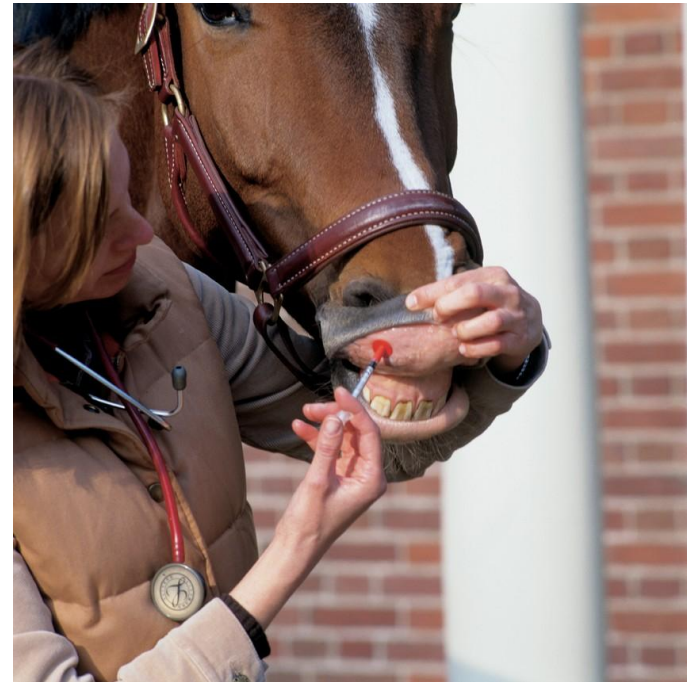
# Strangles - Biosecurity

- Quarantine new arrivals
- Test for carriers
  - Blood test followed by NP swabs or GP lavalge
- Individual equipment
- Good stable hygiene



# Strangles - Vaccination

- Strangles vaccine is again available
- Administered via an injection into the upper lip of the horse
- Well tolerated
- Can be given to horses from four months of age



# Strangles - Vaccination

- Does not prevent strangles but does...
  - ... reduce clinical signs
  - ... and decrease likelihood of lymph node abscesses
- Will give a positive result with a blood test

# Vaccination Programme

- A horse's vaccination programme should be based on risk and economic consequences
  - In general the more a horse is in contact with other horses the greater its risk of contracting strangles
- All horses on a yard should be vaccinated using the same regime

# Strangles - Should I vaccinate?

|                                                           |                                                           |                                                     |                                                       |
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Vaccination optional. May be appropriate for risk-averse owners

Consider 6 month vaccination intervals

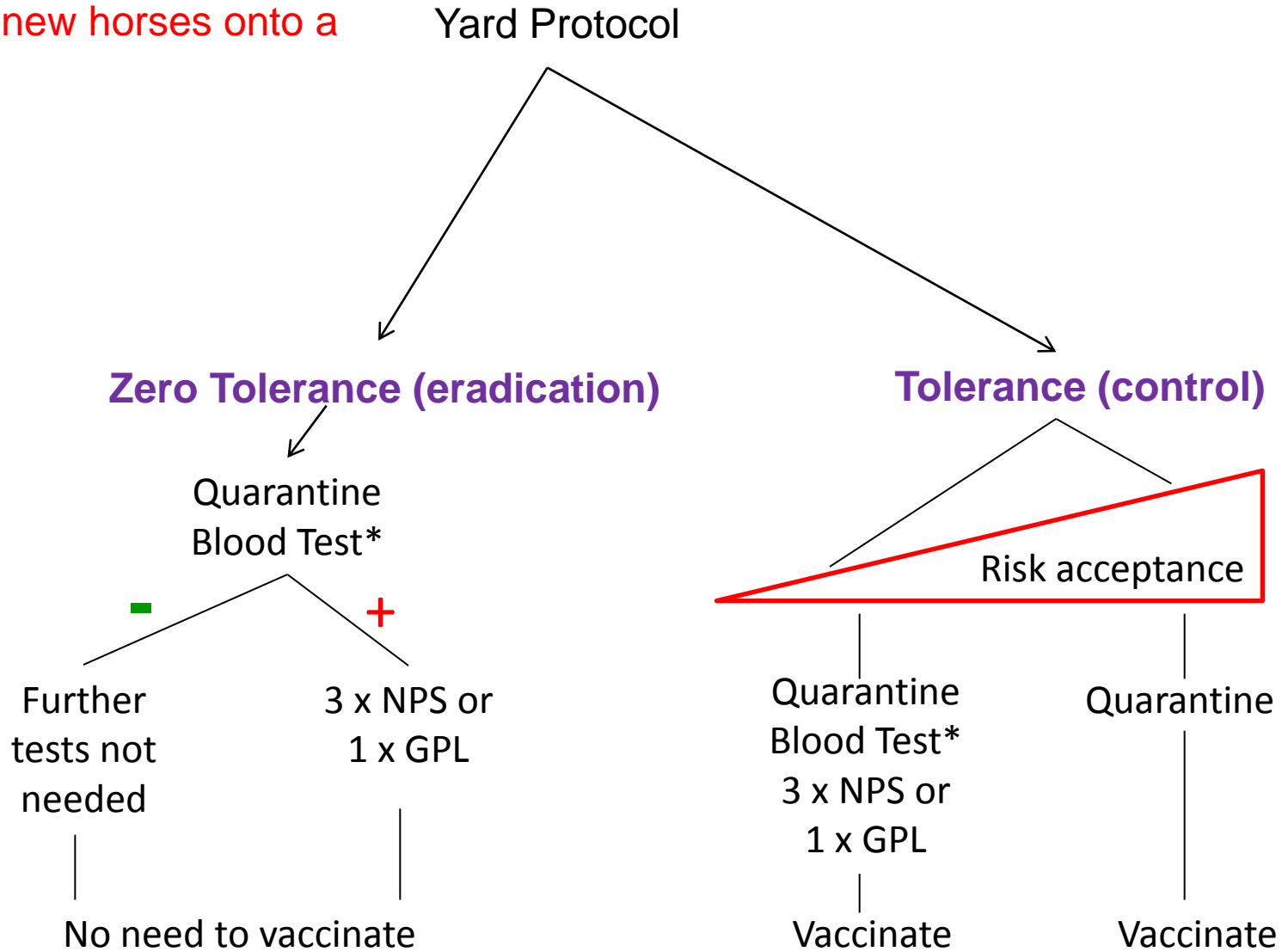
3 month vaccination intervals

# Vaccine Regimes

|                           | <b>Initial vaccination</b>   | <b>Booster</b> | <b>Outbreak situation</b>                                                                  |
|---------------------------|------------------------------|----------------|--------------------------------------------------------------------------------------------|
| <b>High risk horses</b>   | 2 vaccinations 4 weeks apart | Every 3 months | No additional vaccinations required                                                        |
| <b>Medium risk horses</b> | 2 vaccinations 4 weeks apart | Every 6 months | Prompt re-vaccination in case of an outbreak more than 3 months after the last vaccination |

NB: there is no need to vaccinate “low risk” horses

Suggested policy for admitting new horses onto a yard



# Strangles Vaccination

- Is an aid in strangles management
- In conjunction with stable management and good hygiene procedures
- Group vaccination is recommended for maximum benefit



# Summary

- Strangles is common & highly contagious
- Subclinical disease has emerged
- Prevention and good biosecurity are critical
- An outbreak requires prompt reaction with good communication
- Vaccination is available as a tool for strangles management in certain situations

[www.equine-strangles.co.uk](http://www.equine-strangles.co.uk)



# Any Questions?

Thanks to Intervet/Schering-Plough AH,  
manufacturers of Equilis StrepE, for their  
support