

Strangles (*Streptococcus equi*)

Extended Version

Classic case: Young horse, nasal discharge, swelling under jaw, head extended

Presentation:

- Usually **young horses** or any previously unexposed horse
- Fever, depression
- **Nasal discharge**
- Head and neck extended, pharyngitis, dysphagia, coughing is rare
- **Lymphadenopathy** – esp submandibular or retropharyngeal
 - Image of lymphadenopathy
 - Image of ruptured submandibular abscess

DDX:

- **Nasal discharge** – HSV-1, HSV-IV, influenza, rhinovirus, adenovirus, reovirus, pharyngeal lymphoid hyperplasia, bacteria pneumonia/pleuropneumonia, guttural pouch disease, nasal passage/sinus infection, cyst, polyp, tumor; allergic airway disease
- **Lymphadenopathy** – lymphoma, myeloma, Glanders, tuberculosis, sporadic lymphadenitis, *Corynebacterium pseudotuberculosis* (pigeon fever)



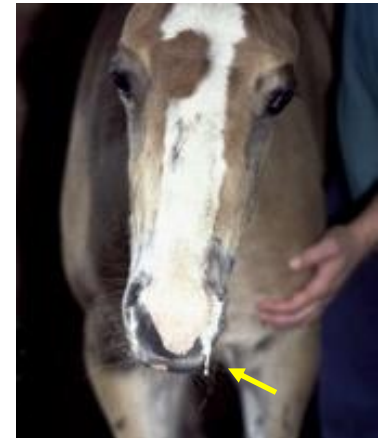
Equine strangles, note abscesses under jaw

Test(s) of choice:

- **Bacterial culture** of nasal discharge or lymph node aspirate/drainage
- **ELISA** useful to detect exposure, vaccine response, possible infection
- **PCR** identifies DNA,
 - Used to identify carriers and
 - Determine if guttural pouch infection/carrier state has been eliminated

Rx of choice:

- Symptomatic therapy
 - NSAIDs, hot packing, soft food
 - Mature abscesses – lance, drain, lavage
- Isolate affected animals



Foal with strangles, note nasal discharge

• Antibiotic Rx **CONTROVERSIAL**

“Most authors agree that initiation of antibiotic therapy after abscess formation may provide temporary clinical improvement in fever and depression, but it **ultimately prolongs the course of disease** by delaying maturation of abscesses.

Antibiotic therapy is indicated in cases with dyspnea, dysphagia, prolonged high fever, and severe lethargy/anorexia.”
- Merck Veterinary Manual, 10th edition, Strangles

- ABX prevent development of abscesses if started immediately
- ABX prevent development of immunity (treated horses still susceptible)
- If abscess present, duration of disease will be **prolonged**
- Complicated cases (extreme dysphagia, airway compromise) use **IV penicillin**
- Tracheostomy may be indicated in severe cases
- Surgery may be necessary to remove chondroids from guttural pouch

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Prognosis:

- Excellent for routine cases
- Guarded for those with complications
- Outbreaks in large groups will often have a few with serious complications and some deaths

Prevention:

- **ISOLATE** all affected horses AND **QUARANTINE** the farm
- **Check temperature twice daily on all horses**
 - Fever develops 2-3 days prior to shedding
 - Isolate febrile horses
- Vaccinate ONLY horses with NO exposure to affected patients
- Most cases shed for 2-3 weeks
- **Carrier State**
 - Short term – up to 6 weeks
 - Long term – few months to years (often due to **persistent guttural pouch infection**)
 - To confirm elimination
 - Three negative cultures of guttural pouch or nasopharyngeal washes required

Pearls:

- Bacterial upper respiratory disease caused by *Streptococcus equi*
- **Bastard strangles** – abscessation of internal lymph nodes or organs
 - lungs, liver, spleen, mesentery, kidney, brain
- **Purpura hemorrhagica** – immune-mediated vasculitis to *S. equi* antigen
 - Occurs after infection
 - or vaccination
 - Image of purpura hemorrhagica
- Transmission –
 - Direct via discharges;
 - Indirect via shared housing, water, equipment, caretakers, vets, farriers, etc
- **Reportable** in some states (Georgia), but not others – **VERY contagious**

Refs: The Merck Vet Manual 10th ed (online): Strangles. ACVIM Consensus Statement. *Streptococcus equi* Infections in Horses. *JVIM* 2005;19:123–134; Blackwell's 5 Min Consult: Eq 2nd ed., p. 732-3, Valberg SJ Immune mediated myopathies, 2006 Proceedings AAEP Vol 52, pp. 354-8. NAVLE Review 2010, North Carolina State University, Images courtesy Dr. Susan White