

Online HorseCollege



Student Workbook

3.H.18 Ailments of the Respiration System

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Ailments of the Respiration System 3.H.18 Workbook

Students are to complete Horse Care 3.H.13-16 online assessments prior to attempting Horse Care 3.H.17-20 and to follow all recommended safety considerations.

Practical assessments for Horse Care 3.H.17-20 are as follows:

- A) Ailments of the Digestive System
- B) Ailments of the Respiratory System
- C) Ailments of the Circulatory System
- D) Therapies

These assessments incorporate the following unit from the SIS30710 Sport Industry Training Package which include the listed elements

RGRPSH401A Relate anatomical and physiological features to the care and treatment of horses

- Identify basic anatomy and physiology of horses
- Relate anatomy and body systems to the performance of racehorses
- Follow illness and injury management plans

Further information about this assessment is available at www.training.gov.au

Ailments of the Respiration System Introduction

The respiratory system has two functions (1) to move air in and out of the body (2) exchanging carbon dioxide for oxygen (gaseous exchange). A horse's respiratory system is quite extensive and efficient as the horse's survival in the wild relies on the horse being able to gallop quite fast. Ailments of the respiratory system inhibit the horse from being utilised for the purpose they were intended. Being that respiration is imperative to the horse being able to exchange gases diseases which affect this system can have serious effects.

As a general rule in the event that a condition or injury does not improve or that the ailment cannot be identified veterinary attention and advice should be sought.

Chronic Obstructive Pulmonary Disease

This ailment (COPD for short) is also referred to as heaves or broken wind. It develops from exposure to allergens particularly in horses stabled during winter. Inhalation of allergen causing spores (i.e., mould & fungus), grass pollens, stable dust and hay dust irritates and causes sensitivity of the alveoli cells in the lungs. The onset of the disease is gradual and similar to that of human asthma. This disease causes narrowing of smaller airways, due to these smaller airways becoming narrower the horse struggles with the exhalation phase of respiration.

Symptoms include:-

- laboured breathing with flared nostrils
- coughing (severe cases may cough up yellowish mucous)
- poor exercise tolerance
- increased respiration rate (20+ breaths per minute)
- difficult expiratory effort (increased heave line, hence the name "heaves")
- altered breathing pattern
- possible high temperature
- wheezing or crackling noise when breathing at nostrils
- appetite may be affected in severe cases

Signs usually become noticeable within ten hours, sometimes as early as within one hour of inhaling the allergen irritant. Whilst the horse is exposed to the allergen symptoms will continue and possibly increase with severity as the horse struggles to breath.

Treatment and prevention involves taking action to reduce or eliminate potential sources of allergens. Such strategies involve using shavings, shredded paper or rice hulls for bedding instead of straw, avoiding deep litter methods of stabling, soaking or using an alternative to feeding hay and keeping the horse at grass. Drugs administered by a vet can help to alleviate the condition, but removing the environmental cause is the only long term solution otherwise once drug treatment is stopped the condition will return.



The "heave line" associated with increased expiratory effort.

Roaring

Roaring or whistling, also known as laryngeal hemiplegia is when the larynx becomes completely or partially paralysed. The larynx is a valve which allows the flow of air into the lower respiratory tract during fast work. This valve also prevents food from entering the lungs. Roaring is caused by degeneration of the nerves that control the muscles which operate the valve to open and close the larynx. Roaring usually occurs on the left side.

During fast exercise or in unfit horses a deep, loud roar will be heard as the horse inhales. Endoscopy (where a long flexible tube with a camera is used to observe inside the body) is used to determine a diagnosis with most horses still being able to perform without the need for surgery.



Roaring or whistling noises can be heard during fast work.

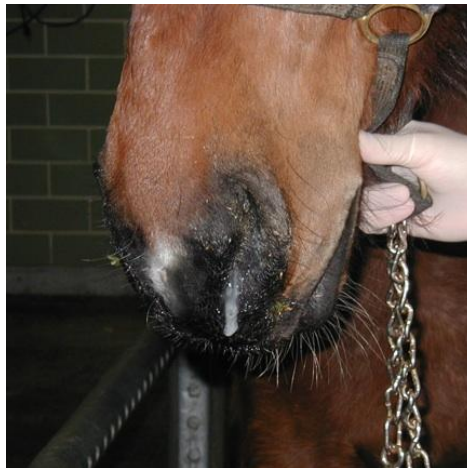
Pneumonia

Pneumonia is an inflammation of the airway which is usually caused by bacteria infection. It can be a secondary infection, associated with bronchitis or COPD but it is not only bacteria that can cause pneumonia (though it is the most likely cause). Fungi and lungworm (in adult horses, ascarids in foals) contribute to the development of pneumonia and in very isolated cases food aspiration (as secondary to other defects i.e., botulism), regurgitated aspiration from oesophageal choke and drenches that go the wrong way down.

Signs of pneumonia include:-

- fever (40°C +)
- lethargy
- increased heart rate
- increased respiration rate
- depression
- cough
- reduced appetite
- fast, shallow breathing
- nasal discharge

Veterinary treatment is required for the administration of drugs. Because pneumonia damages the lung tissues there can be long term damage and complications such as emphysema.



Nasal discharge can be clear or contain pus.

Strangles

This condition affects the upper respiratory tract, mainly in younger horses. It is highly contagious and can spread quite quickly between animals in contact. It is caused by a bacterial infection of *streptococcus equi*. The name strangles comes from the enlargement of the lymph nodes in the jaw which compresses the pharynx making breathing difficult.

Affected animals will show signs of:-

- high temperature
- poor appetite
- watery nasal discharge at first
- stiff head carriage
- difficulty swallowing
- hard swelling behind the lower jaw

The incubation period of strangles is three to six days where the first three listed symptoms will be present. The hard swelling behind the jaw (caused by enlarged lymph nodes) will burst in about ten to fourteen days and release thick pus. The nasal discharge and pus from the jaw increases the risk of the disease being passed onto other horses. Sometimes the jaw swelling will require lancing (a surgical incision).

Complications can arise from strangles if the lymph nodes are unable to block the infection, which can result in pneumonia, respiratory distress and pleuritis (inflammation of the lung and chest lining).

Because of the contagiousness of strangles affected horses should be isolated and strict hygiene measures put into place. Horses with draining abscesses can shed the bacteria for up to four weeks but the bacteria can still remain in the environment for a considerable time longer (one month or longer). Veterinary treatment is important and the best prevention is vaccination with regular boosters.



Jaw swelling prior to rupture.



Jaw swelling after rupture

Equine Influenza

Equine flu is a highly infectious disease that is caused by a virus. Due to the contagiousness of this disease it can become an economic problem within the horse industry. It is spread through the air particularly in areas with poor ventilation and where horses are kept in close proximity.

Signs and symptoms of influenza:-

- fever, which goes up and down (38.9 – 41.7°C)
- harsh, dry cough
- watery nasal discharge
- lethargy
- increased heart rate
- increase respiratory rate
- weeping eyes
- muscle soreness
- muscle stiffness
- difficulty eating
- throat sore when touched
- depression
- loss of appetite

Equine influenza commonly has a sudden onset and spreads quickly amongst groups of horses. Veterinary advice is essential and horses that show signs or are suspected to have been exposed to the disease confined and quarantined.



Extension Lesson

Identify the cause, symptom and treatment of the following ailments.

COPD	Cause:	Symptoms:	Treatment:
Roaring	Cause:	Symptoms:	Treatment:
Pneumonia	Cause:	Symptoms:	Treatment:
Strangles	Cause:	Symptoms:	Treatment:
Equine Influenze	Cause:	Symptoms:	Treatment:

Recommended Reading

Publication:-

Veterinary notes for horse owners

The BHS veterinary manual

Author:-

Captain M. Horace Hayes

P. Stewart Hastie

Websites:-

References

Publication:-

Veterinary notes for horse owners

The BHS veterinary manual

6th Edition Pony Club Manual No.2

Common Health Problems of Horses

The Complete Horse Care manual

Author:-

Captain M. Horace Hayes

P. Stewart Hastie

Elaine Knox-Thompson & Suzanne
Dickens

John Kohnke

Colin Vogel

Websites & Images:-

largeanimal.vethospitals.ufl.edu

shop.boisdale.co.uk

horsewyse.com.au