Online HorseCollege

Student Workbook

3.H.16 Ailments of Musculo-Skeletal System

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Ailments of the Musculo-Skeletal System 3.H.16 Workbook

Students are to complete Horse Care 3.H.09-12 online assessments prior to attempting Horse Care 3.H.13-16 and to follow all recommended safety considerations.

Practical assessments for Horse Care 3.H.13-16 are as follows:

A) Digestive System

B) Respiration System

C) Circulatory System

D) Ailments of the Musculo-Skeletal System

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 Musculo-Skeletal System Introduction

The musculo-skeletal system relates to the structure and functioning of the muscles, tendons and ligaments. This system is concerned with form and movement and as such injuries and illnesses of this system will affect a horse's ability to move. This workbook covers some of the common ailments of this system with information provided on the causes, symptoms, treatment and long term affects on the horse.

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.

Bone Spavin

Bone spavin or secondary joint disease of the hock is a type of osteoarthritis that usually affects both hind legs. It is a disease that affects the joint by destroying articular cartilage that in later stages progresses to bone. It is a common cause of hind leg lameness in horses and generally shows up as stiffness in the hind legs which improves when the horse is exercises or allowed more room to move (such as stabled horses turned out into a paddock during the day).

It is caused by poor conformation (e.g., sickle hocks), activities which require excessive forces on the hock (e.g., jumping, hunting, dressage) and poor trimming or shoeing.

During flat work problems will become evident when the horse is required to maintain impulsion with the steps becoming unlevel and rhythm during lateral work will become interrupted with hopping like steps.

In jumping horses, the horse may start to refuse fences. The development of back problems is not uncommon is horses with bone spavin due to muscle soreness produced through abnormal ways of moving.

In horses where one leg is affected the musculature of the hind quarters may develop asymmetrically due to the favouring of the leg. Other clinical signs of bone spavin include toe dragging, restricted flexibility of the hind legs, abnormal wear of shoes and occasionally firm swelling on the inside of the hock.

Because bone spavin is a degenerative joint disease it is usually a persistent problem. In horses that are given rest or a spell usually reach a stage where the horse becomes sound again because the body stabilises the affected joints by producing new bone thus fusing the bones together, removing the pain. However signs of lameness can occur once an exercise program is resumed.

Corrective shoeing can help to reduce lameness and improve the quality of the gait.

In severe circumstances surgery to remove articular cartilage within the joint.

Bowed Tendons

Bowed tendons are tendons which have been strained (tendonitis) due to over stretching or excessive loading of the tendon structure. Most commonly it occurs in the front legs and in the superficial digital flexor tendon.

This type of injury is likely to be a result of moving at speed, particularly if combined with jumping and poor footing or ground (e.g., muddy) making it common in racing horses, hunters and eventers. Horses with poor conformation such as low sloping pasterns, low heels or being behind at the knee are more predisposed to straining tendons because the conformation faults put added stress on the tendons.

The signs of a bowed tendon can vary with the severity of the strain. The horse may not be lame in the early stages of tendon strain, with the affected tendon becoming slightly increased in diameter and the vein on the inside of the leg becoming enlarged. If caught early, rest and application of cold treatments may remove these symptoms but usually damage to the tendon has already been done and on resuming work it is likely to return.

Inflammation brings the accumulation of fluid to the site of injury which will cause swelling, pain, heat and as a result, lameness. Under careful palpation normal tendons will feel firm and injured tendons will feel softer. In some cases swelling may have to be reduced to be able to get an accurate diagnosis.

The first aid treatment in a horse with suspected bowed tendons is to limit movement. Cold treatments such as hosing the affected leg or bandaging of ice packs to the legs should be carried out frequently, however care must be taken if bandaging ice to the affected leg that the bandage is applied with even pressure. Veterinary attention should be sought as soon as possible.

An old bowed tendon injury. Note the convex curve of the leg.

Sesamoiditis

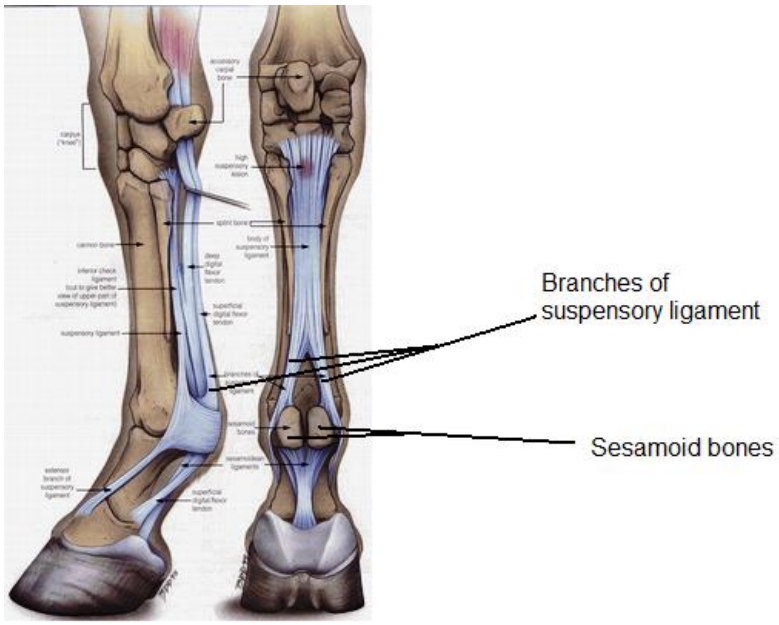
This ailment is an inflammation of the sesamoid bones at the back of the fetlock joint. It is caused by stress of the fetlock joint during fast exercise. The sesamoid bones are attached to a ligament and when the joint flexes and extends the bones move up and down.

As can be expected horses with poor conformation such as a long toe can have a predisposition to this injury. Damage to the ligaments attached to the sesamoid bones can also contribute to the incidence of the disease. It is more likely to occur in horses used for activities when stress is placed upon the fetlock joint and ligament apparatus, such as dressage and show-jumping.

Signs of sesamoiditis include lameness which may come on gradually or suddenly, thickening of the suspensory ligaments above the sesamoid bones, heat and pain. When observed at trot the horse will have a proppy action to avoid flexing the fetlock joint.

You will need to contact your veterinarian as x-rays may be required to confirm diagnosis.

With rest the condition will subside but there is a high likelihood of reoccurrence. Prevention is better than cure in horses with predisposed conformational defects, trimming and shoeing can help to correct or improve the hoof angle irregularities.



Splints

Splints are bony enlargements usually on the inside of the cannon bone. There are three bones beneath the knee and hock, the cannon bone and two splint bones. In the front leg these bones are referred to as metacarpal bones and in the hind leg metatarsal bones. A splint occurs when trauma is experienced to the bone resulting in inflammation of the periosteum (periosteum attaches tendons and ligaments to bone). This causes the periosteum to lift away from the bone which stimulates new bone production. This bone production becomes the splint.

Horses with poor confirmation such as bench knees (the lower leg is set to the outside of the knee), irregularities in the hoof hitting the ground evenly and upright conformation can predispose horses to splints. Other causes include immature limbs being exposed to overworking through galloping, jumping, working on hard ground or carrying excessive weight. Splints may also develop in response to trauma such as a kick or poor diet where there are incorrect amounts of phosphorous to calcium intake.

At walk a horse with a new splint will appear sound and the horse will be able to bear weight on the affected leg. Lameness will become evident in trot especially on hard ground. Soft swelling and pain will follow. Upon healing the splint will become hard and bony. If this new bone formation interferes with the suspensory ligament, surgical removal may be necessary but otherwise once formed the horse is not lame.

Treatment of splints involves rest and anti-inflammatory treatment will require attention of a veterinarian. Initial first aid treatment should consist of applying cold treatment (e.g., hosing or ice packs) to reduce inflammation and moving the horse to an area such as a stable to reduce movement. If lameness and inflammation are persistent contact your veterinarian.

Suspensory Ligament Strain

The suspensory ligament runs down the back of the cannon bone. Sprains can occur anywhere along its length.

Horses that work at a fast pace are most prone along with horses with poor hoof conformation in particular the toes being angled inwards or out.

Signs of a sprain will include heat, pain when pressure is applied to area when it is not bearing weight and thickening or softening of the ligament. Horses are usually more lame on a circle than straight lines.

Initial first aid treatment is the same as for a bowed tendon, limit movement and apply cold treatments regularly. Veterinary attention should be sought as soon as possible. The long term use of the horse will depend upon the severity of the strain.

Extension Lesson

Identify the following conformation defects:

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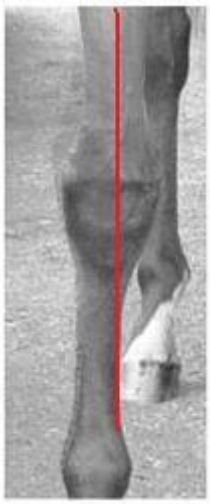

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Recommended Reading

Publication:-	Author:-
Veterinary notes for horse owners	Captain M. Horace Hayes
The BHS veterinary manual	P. Stewart Hastie

Websites:-

www.ed.ac.uk/polopoly_fs/1.23110!/fileManager/bone_spavin.pdf

http://www.thoroughbredtimes.com/horse-health/2002/june/01/treating-suspensory-ligament-injury.aspx#

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Publication:-	Author:-
Veterinary notes for horse owners	Captain M. Horace Hayes
The BHS veterinary manual	P. Stewart Hastie
6th Edition Pony Club Manual No.2	Elaine Knox-Thompson & Suzanne Dickens
Common Health Problems of Horses	John Kohnke

Websites & Images:-

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