



Australian Government

**Assessment Requirements for ACMFAR401
Apply knowledge of equine musculoskeletal
system, biomechanics and pathology for
effective hoof care**

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Modification History

Release	Comments
Release 1	This version released with ACM Animal Care and Management Training Package Version 2.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has:

- accurately identified key anatomical features (normal and abnormal) of the equine distal limb and hoof capsule on:
 - a live equine
 - a cadaver leg
 - a radiograph
- determined possible causes of common pathologies relating to young, mature, old, shod and unshod/barefoot equines by analysing:
 - the movement and examining/palpating the limbs of at least three live equines
 - at least three realistic case studies addressing common equine pathologies not covered by the range of live equines in the point above
- explained musculoskeletal structures, conformation and features, both normal and abnormal, to others using accurate anatomical and industry terminology.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- overview of equine anatomy and musculoskeletal structures, including:
 - key features, actions, location and orientation of the musculoskeletal system including thoracic and pelvic limbs
 - changes in equine musculoskeletal structure related to age, growth, performance, ailments and injury
 - major blood vessels, circulation, nerves and lymphatic system relevant to the distal limb

- structure, function, actions, names and location of equine distal limb bones, joints, ligaments and tendons
- basic principles of equine movement and biomechanics of the limbs and hoof to enable movement and passive stance
- conformational characteristics that may impact on equine musculoskeletal structure stability, including:
 - correct conformation of common breeds, according to breed standards, and how to access information on less common breeds
 - desirable and undesirable conformation features
 - congenital and acquired conformation faults
 - effect of common conformation faults on equine action and hoof
 - principles of static and dynamic foot balance
- key features and functions of all parts of the equine limb and hoof capsule, including:
 - dorsal wall
 - medial and lateral wall
 - heels and buttresses
 - bulbs of foot
 - sole
 - white line
 - bars
 - frog
 - suspensory apparatus of the distal phalanx
 - periople and perioplic corium
 - laminae and laminar corium
 - coronary corium
 - corium of sole
 - corium of frog
 - corium of bars
 - digital cushion
 - distal phalanx cartilages
 - joints - hock, knee, fetlock, pastern, pedal
 - bones - navicular bone and surrounding structures, pedal bone, long and short pastern, carpus and tarsus, metacarpals and metatarsals
 - tendons, their insertion and position
 - muscles and points of origin and insertion
 - blood supply of the distal limb
 - nerve supply of the distal limb
 - ligaments of the distal limb
 - all palpable structures of the distal limb
 - skin and hair
 - dermal/epidermal laminae attachments (suspensory apparatus of PIII)

- signs and causes of lameness, including pain related to orthopaedic, metabolic, circulatory and infectious causes
- pathology and symptomology of conditions and injuries related to the distal limb, including:
 - interference injuries - brushing, speedy cutting, forging, over-reaching
 - minor conditions - puncture wounds, thin soles, hoof wall cracks, hoof capsule distortion, white line thrush and seedy toe
 - moderate to severe conditions - laminitis, navicular disease, palmar/plantar hoof pain, hoof crack and hoof wall avulsion, flexural deformities (contracted tendons)
- soft tissue injuries, including to:
 - co-lateral ligament
 - flexor/extensor tendon
 - suspensory ligament lesions
- degenerative joint disease - spavin, high/low ringbone
- relationship between type of work and environment, including topography surfaces and diet and nutrition, to equine conditions and pathologies
- approaches to dissecting cadaver legs
- basic features of medical diagnostic imaging, including:
 - radiographs / x-rays
 - computed tomography (contrast CT) using radiocontrast agents
 - magnetic resonance imaging (MRI)
- relevant regulations, codes of practice and workplace procedures to relating to interacting with equines, including:
 - workplace health and safety and safe work practices
 - animal welfare principles, practices and ethics.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - various live equines to examine and/or observe movement
 - equine cadaver legs and radiographs of distal limb
 - case studies or simulations (models, videos or DVDs) to supplement information not available to directly observe or examine on horses
 - access to information about equine musculoskeletal structures, biomechanics and pathologies.

Training and assessment strategies must show evidence of the use of guidance provided in the *Companion Volume: User Guide: Safety in Equine Training*.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b75f4b23-54c9-4cc9-a5db-d3502d154103>