



Australian Government

ACMEQD501 Relate equine masticatory system to oral function, conditions and their health impacts

Release: 1

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Modification History

Release	Comments
Release 1	This version released with ACM Animal Care and Management Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to assess the equine masticatory system, and evaluate efficiency and impact of oral conditions on equine health. It includes knowledge of the anatomy and physiology of the equine head, oral structures and dentition, and their relationship to general health.

The unit applies to individuals working as equine dental technicians who use practical skills and knowledge to perform equine dental treatments and oral care across a range of industry sectors involving equines. They work autonomously and apply in-depth, technical knowledge and skills to provide and communicate solutions for predictable and unpredictable problems.

Commonwealth and state/territory health and safety and animal welfare legislation, regulations and codes of practice relevant to interacting with horses apply to workers in this industry. Requirements vary between industry sectors and jurisdictions.

State/territory veterinary practice legislation, restricted acts of veterinary science, and pharmacy, controlled drugs and prohibited substance legislation apply to the scope of work of equine dental technicians. These vary according to jurisdictions.

Pre-requisite Unit

Nil

Unit Sector

Equine Dentistry (EQD)

Elements and Performance Criteria

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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

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1. Identify and locate equine oral cavity structures	1.1 Locate structures of the equine head and oral cavity, and identify their functions 1.2 Identify and record location and structure of equine teeth and related supporting anatomy using appropriate notation system 1.3 Identify developmental stages and eruption of teeth in equine life stages from birth to maturity in equine 1.4 Identify genetic, congenital and developmental dental abnormalities relating to the eruption, development and wear of teeth
2. Relate prehensile and masticatory function to teeth types	2.1 Relate the process of prehension and mastication of food to normal oral function, including influence of different food types 2.2 Identify functions of equine teeth and associated supportive and connective structures 2.3 Identify stages of development and eruption of equine teeth 2.4 Identify abnormalities of development and eruption
3. Age equine by interpreting tooth eruption, dental wear patterns and tooth angles	3.1 Identify stages of tooth eruption and presence or absence of deciduous and permanent teeth 3.2 Assess incisor shape and angles in relation to age, and identify variables that affect assessment 3.3 Identify occlusal wear and shape of teeth relevant to equine life stage 3.4 Estimate equine age based on presence or absence of deciduous and permanent teeth, wear patterns, tooth form and tooth angles 3.5 Document tooth status and oral conditions using accepted industry notation methods
4. Evaluate the impact of dental and oral health on muscular structure, digestion and nutrient absorption	4.1 Assess anatomical structure and function of head, and relationship between muscular structure and masticatory function 4.2 Determine changes in head and oral cavity due to age, disease and injury 4.3 Evaluate other factors affecting oral function and digestive processes 4.4 Identify effects of poor oral health on equine physiology and nutrient absorption
5. Identify and evaluate	5.1 Identify normal and abnormal dental and oral conditions and

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the impact of dental and oral conditions on equine health	possible causes of abnormalities 5.2 Evaluate potential health impacts of dental injuries, diseases and abnormalities
6. Evaluate the impact of absent or inappropriate dental care on equine health	6.1 Evaluate potential consequences of absence of dental care on health of equines 6.2 Identify indicators and consequences of inappropriate dental techniques and treatments

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	- Interpret information in equine dental records and charts and veterinary advice - Analyse complex anatomical texts, diagrams and other resources from a variety of sources, and consolidate information
Writing	Record equine dental information in English, using industry accepted nomenclature and coding systems in print-based or electronic formats

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ACMEQD501 Relate equine masticatory system to oral function, conditions and their health impacts	ACMEQD402 Determine equine oral functional efficiency	Redesigned unit merging content from two units <i>ACMEQD402 Determine equine oral functional efficiency</i> , and <i>ACMEQD403 Identify potential impacts of oral</i>	Not equivalent

		<i>conditions</i> Unit code changed to reflect work requirements	
ACMEQD501 Relate equine masticatory system to oral function, conditions and their health impacts	ACMEQD403 Identify potential impacts of oral conditions	Redesigned unit merging content from two units <i>ACMEQD402 Determine equine oral functional efficiency, and</i> <i>ACMEQD403 Identify potential impacts of oral conditions</i> Unit code changed to reflect work requirements	Not equivalent

Links

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

Assessment Requirements for ACMEQD501 Relate equine masticatory system to oral function, conditions and their health impacts

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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 examined oral condition of at least twelve equines, including:

- at least two equines in each of the following life stages:
 - young (less than 6 years)
 - mature
 - senior/aged
- at least two equines on each of the following diets:
 - pasture/paddock
 - stable feed
 - high performance feed.

For each twelve equine oral examinations, the individual must have carried out the following:

- located and described oral cavity features by name, location and function
- identified lateral excursion, rostral-caudal movement and occlusal functionality
- estimated equine age based on tooth eruption, development, wear, shape and incisor angulation
- assessed basic general health and health of teeth and dental structures for each equine
- identified evidence of pathology, health issues and appropriate or inappropriate dental care for each equine
- completed accurate dental charts for each equine examined
- used appropriate dental codes, language and terminology to document functionality of the masticatory system and all observations.

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:

- functionality of the equine masticatory system
- structures and features of the anatomically correct and healthy equine head and dentition, and well-maintained oral cavity, including:
 - bone structures of the head
 - soft tissues, including lips, tongue, gums and cheeks
 - hard palate and palatine artery
 - periodontal and related structures
 - equine teeth
 - innervation and blood supply to various structures of the head
- key functions of oral structures, including:
 - those used for prehension, mastication, swallowing, digestion
 - normal and abnormal functions, including physiology and effect of diet
- equine tooth types, including:
 - incisors
 - canines
 - cheek teeth – premolars (including wolf teeth) and molars
 - supernumerary teeth
- stages of tooth development, including:
 - bud stage, cap stage, bell stage
 - embryonic sac
 - deciduous, permanent
 - mineralisation, attrition and ageing
- nomenclature and classification of equine tooth types, including:
 - Triadan numbering system
 - anatomical nomenclature of teeth
 - deciduous and permanent teeth, and timing and stage of eruption
- structures of equine teeth and associated structures, including:
 - apical foramen
 - alveolus (socket)
 - periodontal ligament
 - Sharpey's fibres
 - cementum, dentine and enamel
 - root, reserve crown and clinical crown, infundibulum
 - pulp canals (or chamber) nerves, vessels and associated structures
- stages of development and eruption of teeth, including:
 - bud, cap, bell and mineralisation stages

- deciduous and permanent tooth eruption
- structure of enamel, cementum and dentine
- attrition/wear of the different dental structures
- abnormalities of development and eruption, including:
 - absence of teeth (oligodontia)
 - supernumerary teeth
 - developmental defects of the teeth
 - dentigerous cysts
 - impaction (failure of tooth to erupt normally)
 - lack of wear
 - parrot mouth, overbite, overjet (mandibular brachygnathism/maxillary prognathia)
 - sow mouth, monkey mouth (maxillary brachygnathism/mandibular prognathia)
 - wry mouth (campylorhinus lateralis)
- stages of equine dental eruption and age indicators, including:
 - presence or absence of deciduous teeth, permanent teeth and infundibulae
 - observation of teeth in wear
- masticatory processes, including:
 - biomechanics of masticatory system
 - feed manipulation and formation of food bolus and transit through oral cavity
 - masticatory muscles, the tongue and salivary glands
 - palate rugae
 - teeth and their normal occlusal angles and surface ridges
- process of prehension, mastication and role of normal oral function, including physiology and effect of diet
- nutritional requirements and digestive processes of equines
- potential consequences of the absence of dental care on equine health, including:
 - untreated pathology, including malocclusions, periodontal disease, developmental defects, fractures, decay
 - inability or reluctance to prehend or to masticate effectively
 - poor acceptance of a bit, bridle or head collar or other behavioural problems related to dental issues
 - gastrointestinal tract impaction and/or colic
- potential outcomes of inappropriate dental techniques and treatments, including:
 - damage to or severing of nerves or blood vessels, such as palatine artery, including haemorrhage
 - lacerated oral tissues, fracture of teeth or of the bones of the maxilla and mandible
 - pulpitis or pulp necrosis (tooth death) due to pulp exposure, or near exposure, or thermal or mechanical damage
 - compromised integrity and functional anatomy of the teeth
 - need to refer to a colleague, including veterinarians, when appropriate
- safe work practices, including safe horse handling techniques

- key requirements of hygiene and biosecurity procedures, relevant to:
 - personal hygiene and personal protective equipment (PPE)
 - cleaning, disinfection or sterilisation of equipment and materials
 - safe biological and general waste disposal
 - equine infectious disease, notifiable diseases and quarantine procedures.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - an equine workplace or a simulated environment that accurately represents workplace conditions
- resources, equipment and materials:
 - various live equines of different ages on different diets, assessed for suitability for skill level being assessed and safety of handler and equine
 - PPE correctly fitted for the individual
 - appropriate gear and restraints for live equine examination, as required.

Two Companion Volumes are available:

- *Companion Volume: User Guide: Equine Allied Health* provides delivery and assessment information tailored for equine dental technicians, and detailed guidelines relating to anatomical requirements and industry expectations
- *Companion Volume: User Guide: Safety in Equine Training* provides advice and sample templates to assist assessors with the risk assessments that should be undertaken to help ensure the safety of all involved in the assessment.

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

Links

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