

C-E.12 Equine Dental Anatomy and Physiology

Credits: 10 (100 hours)

Provider: Veterinary Postgraduate Unit – Institute of Veterinary Science

RCVS Content Covered

Anatomy

Candidates should be able to demonstrate a detailed knowledge of:

- The anatomy of the oral cavity and its supporting structures including nerve supply and normal variations.
- Gross anatomy of the head including sinus structure, cranial nerves, and oral cavity.
- Histological anatomy of the teeth / morphology.
- The modified Triadan system of dental nomenclature.
- Embryological development of the teeth.
- Age by dentition - and its limitations - eruption of molars.

Anatomical abnormalities

Candidates should be able to demonstrate understanding of a range of developmental abnormalities, including:

- Hypoplasia of dental tissues e.g. cementum or enamel.
- Oligodontia - polydontia.
- Brachygnathia.
- Prognathia.
- Campylorrhinus lateralis (Wry nose).
- Other types of malocclusions including those of individual teeth.
- Abnormal or delayed shedding of deciduous caps.
- Cleft palate

Dental Physiology

Candidates should be able to demonstrate an appreciation of normal dental physiology, including:

- The effect of the development of the permanent dentition on dental diseases
- The chewing cycle
- Function of the tables and transverse ridges.
- Function of the sharp enamel points.
- Concepts of molar occlusion (lateral excursion). No rigid or arbitrary formulae to be applied.
- Modifications to normal that may be required to aid the rider / use of bits.
- Affect of nutrition on dental health in the horse - variation between locations.

Nutrition

Candidates should have a sound basic knowledge of good management practices.

- Basic nutrition for maintenance, work, growth and pregnancy.
- Effects of poor dentition on nutrition – analysis of long fibre in faeces.
- Nutritional advice for horses with dental disease.

The Dental Examination

Candidates should demonstrate an ability to take a dental and general history and to take a logical and systematic approach to dental examination.

- Appropriate sedation techniques - consideration to safety and risk assessment.
- Completion of a dental chart and formulation of individual dental maintenance schedules.
- Palpation.
- Manipulation - excursion test.
- Use of speculum
- Visual and manual examination including appropriate use of dental mirror.
- Recognition of clinical signs of dental disease - including oral ulceration, gingivitis, diastema, occlusal defects, dental fractures, quidding and weight loss.

Equipment

Candidates should have knowledge of, and be able to compare the effectiveness of, regularly-used dental equipment, including:

- The various floats.
- Different types and shapes of blade available.
- Gags and full mouth speculums. The pros and cons of the various types.
- The commoner power instruments both rotary and reciprocal (including the dangers both thermal and traumatic of using this equipment).
- Safety equipment such as goggles, masks and gloves.
- Maintenance of equipment in a clean and hygienic condition.
- Apical abscessation

Basic 'Floating' and Maintenance of dental health

Candidates should be able to understand the principles involved in 'floating' the teeth.

- Reasons for floating.
- Techniques for floating specific areas of the mouth.
- Arguments for and against the creation of 'bit seats'.
- Dangers of over treatment – smooth mouth and exposure of pulp cavities.
- Wolf tooth extraction.

The law and professional ethics as related to equine dentistry

- The Veterinary Surgeons Act.
- Potential derogations under the VSA to permit equine dentistry by lay people.
- Working with lay Equine Dental Technicians and other Veterinary Surgeons.
- When to refer a case to a centre of excellence.

Aim of the Module

The aim of this module is to develop an in-depth knowledge of the underlying theory of equine dentistry and to promote development of practical skills. This module will also incorporate the generic skills of evidence based medicine, clinical reasoning, literature review and critique, communication, clinical audit and reflection.

Learning Outcomes

At the end of the module, candidates should be able to:

1. demonstrate in-depth understanding of the normal anatomy and physiology of the equine oral cavity and associated structures and the practical application of this knowledge;
2. demonstrate a critical awareness of the developmental disorders of the equine oral cavity and how they affect normal function;
3. demonstrate application of a sound clinical reasoning process in the approach to dental problems, incorporating evidence from the diagnostic database and scientific literature as well as the ability to appropriately adapt to client, animal and practice factors;
4. critically appraise literature relevant to clinical cases in the topics covered and discuss how the literature can be used to inform practice;
5. demonstrate critical reflection on clinical work, including identifying potential clinical audit points translating to new protocols or measureable outcomes.

Module Structure

The syllabus is divided into 4 study units as outlined below:

Study Unit 1: Dental Anatomy and Anatomical Abnormalities

- The anatomy of the head, oral cavity and teeth
- Embryological development of the teeth.
- The modified Triadan system of dental nomenclature.
- Age by dentition - and its limitations - eruption of molars.
- Developmental abnormalities of dental tissues and structures including malocclusions

Study Unit 2: Dental Physiology and nutrition

- The chewing cycle and enamel points
- Function of the tables and transverse ridges.
- Concepts of molar occlusion (lateral excursion).
- Affect of nutrition on dental health in the horse - variation between locations.
- Effects of poor dentition on nutrition – analysis of long fibre in faeces.
- Nutritional advice for horses with dental disease.

Study Unit 3: The Dental Examination and Equipment

- Appropriate restraint, visual and manual examination
- Completion of a dental chart and formulation of individual dental maintenance schedules.

- Recognition of clinical signs of dental disease - including oral ulceration, gingivitis, diastema, occlusal defects, dental fractures, quidding and weight loss.
- Knowledge of regularly used dental equipment including floats speculums and power tools.floats.
- Maintenance of equipment in a clean and hygienic condition.

Study Unit 4: Basic 'Floating' and Maintenance of dental health.

- Reasons for floating.
- Techniques for floating specific areas of the mouth.
- Arguments for and against the creation of 'bit seats'.
- Dangers of over treatment – smooth mouth and exposure of pulp cavities.
- Wolf tooth extraction.

The law and professional ethics as related to equine dentistry.

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Assessment Strategy

2 x reflective case reports(1500 words each), 2 x open book examinations using a range of short answer questions, a portfolio of cases (10 dental charts) and 1 x journal critique/journal club presentation (pass/fail)

PLEASE NOTE: It is your responsibility to ensure that you have access to sufficient appropriate cases where you were the primary decision maker to produce adequate material for the module. This may not be possible with some internship positions. You must also be aware of any limitations of your facilities that may make the accumulation of appropriate cases difficult or impossible.