

## C-VDI.5 Large Animal Diagnostic Imaging (B)

**Credits:** 10 (100 hours)

**Provider:** Veterinary Postgraduate Unit – Institute of Veterinary Science

### RCVS Content Covered

The following outlines the modular content as set out by the RCVS.

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

- Recognise **faults due to defects in processing and film handling**, and deficiencies in film identification; recognise problems relating to density, contrast and sharpness, due to inadequate radiographic procedure; and recognise, from films, deficiencies in radiation safety procedures.
- Recognise and describe **normal radiographic anatomy** – candidates should possess a detailed knowledge of the normal radiographic anatomy of the horse and its variation with breed and age.
- Make appropriate use of **contrast media** – understand the nature of the more frequently used media and indications for their use; the procedures for performing basic contrast techniques.
- Apply the **principles of radiological interpretation** – the recognition of tissue types; formation of shadowgraphs; effects of superimposition and multiple shadows. Changes in opacity, size, shape, position and function of organs. The use of simple positional and contrast aids to elucidate radiographic problems. The applications of these basic principles to the evaluation of radiological signs in relation to clinical problems.
- Understand the principles and apply **diagnostic ultrasonography** in veterinary practice – physical principles of ultrasound; image production; display modes; artefacts; normal ultrasound appearance of the major organs (heart, lung, liver, kidney, spleen, intestine, bladder); recognition of major alterations to the normal architecture of these organs and the possible diagnostic significance of these changes.

### Aim of the Module

The aim of this module is to develop a logical, systematic and reasoned approach to large animal diagnostic imaging of the upper limb, neck, back, pelvis, thorax and abdomen as part of their overall investigation of a case in a practice environment;

To enable the candidate to critically evaluate their own standards of practice and develop strategies for continuous improvement in the future.

## Learning Outcomes

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

1. demonstrate ability to apply the principles of radiological and ultrasonographic interpretation to the evaluation of radiological or ultrasonographic signs in relation to clinical problems in large animal cases involving the upper limb, neck, back, pelvis, thorax and abdomen;
2. develop the skills and knowledge in order to apply diagnostic techniques appropriately as part of the overall investigation of a case;
3. develop the ability to critically appraise their current diagnostic imaging technique, and to improve on their technique with experience;
4. critically evaluate the literature in order that evidence based medicine underpins their decision making processes.

## Module Structure

**The syllabus will be divided into 4 study units**

### Study Unit 1 –The Neck

- Radiography of the equine neck to include the following subject areas
- Recognise and describe normal radiographic anatomy and its variation with breed and age (review form C-VDI.1)
- Common abnormalities affecting the skeleton. Fractures, dislocations, congenital and developmental abnormalities. Degenerative conditions. Inflammatory and neoplastic changes.
- The principles and problems associated with the use of contrast media to demonstrate lesions of the spinal cord.
- Common radiographic abnormalities of the oesophagus. Obstructive lesions and functional disturbances. The significance of gas shadows.
- The use of contrast media. Differential diagnoses.
- Ultrasonography of the equine neck
- Advanced imaging of the equine neck

### Study Unit 2 – The Back and Pelvis

- Radiography of the equine back and pelvis Recognise and describe normal radiographic anatomy and its variation with breed and age ( review form C-VDI.1)
- Common abnormalities affecting the skeleton. Fractures, dislocations, congenital and developmental abnormalities. Degenerative conditions. Inflammatory and neoplastic changes
- Ultrasonography of the equine back and pelvis
- Advanced imaging of the back and pelvis

### Study Unit 3 – The Thorax and Abdomen

- Radiography of the equine thorax and abdomen - Common abnormalities affecting the trachea, thoracic wall, pleural cavity, mediastinum, diaphragm and lungs. Pulmonary patterns. Differential diagnoses.
- Ultrasonography of the equine thorax and abdomen - Echocardiography and thoracic ultrasound
- Ultrasonography of the equine abdomen

- Reproductive and urogenital ultrasonography

#### **Study Unit 4 – The Upper limb**

- Radiography of the upper limb (above the level of the carpus/tarsus)
- Recognise and describe normal radiographic anatomy and its variation with breed and age (review form C-VDI.1)
- Common abnormalities affecting bones and joints of the upper limb. Fractures, dislocations, inflammatory and degenerative conditions. Congenital and developmental abnormalities, metabolic disorders. Trauma. Differential diagnoses.
- Ultrasonography of the upper limb including joints (shoulder /stifle) and soft tissue structures
- Advanced imaging of the upper limb

#### **Assessment Strategy**

Portfolio of cases (50 case log book), 3 x reflective case reports (1500 words each), 1 x short answer question and/or MCQ test 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.