

Reference Number	C-VP.2
Module Title	Clinical Pathology - Laboratory Diagnostics
Category and Value	C – 10 credits
Study Hours	100

Introduction

The objective of the module is to enable you to consolidate your clinical knowledge, and to develop an in depth understanding of the application of that knowledge in a practice environment in relation to laboratory medicine diagnostics. The module is aimed at general practitioners who want to develop their confidence in the selection and interpretation of appropriate diagnostic tests for their clinical cases.

Coverage of this module may be integrated with others, particularly other B and C modules. You will have completed the Foundations of Advanced Veterinary Practice module (A-FAVP.1) and at least one of the practice B modules, before undertaking a C module. In whichever order modules are tackled, compliance with best practice for all the topics covered by module A-FAVP.1 will be expected whenever these are appropriate in C modules. For example, awareness of, and compliance with, all relevant legislation, welfare and ethical principles will be required throughout.

Aims

This module aims to enable you to consolidate your clinical knowledge, and to develop an in depth understanding of the application of that knowledge in a practice environment in relation to laboratory medicine diagnostics.

Learning Outcomes

At the end of this module, you should be able to:

1. Comprehensively understand the pathophysiological basis of changes in laboratory test results.
2. Interpretate laboratory test results in relation to clinical findings and other diagnostic test results
3. Integrate results from different diagnostic tests to help reach a clinical diagnosis
4. Review and constructively criticise current literature on the specialty, so you can assess the relevance to your current practice
5. Utilise your understanding of evidence-based medicine and decision analysis to choose the appropriate diagnostic test(s) and develop practical diagnostic protocols
6. Recognise when a case is unusual and become familiar with information resources available to enable you to deal with such cases

7. Recognise when a case is beyond your personal or practice capabilities for continued testing and monitoring (i.e. when test referral or case referral is indicated).

Module content

Basic guidelines for set up and maintenance of an in-practice laboratory

- Choosing and evaluating equipment and its performance for haematology, biochemistry, for in house/office/near patient testing
- Routine maintenance and calibration of equipment
- Standardisation and quality control of laboratory tests, internal and external quality control schemes. Quality assurance schemes. Procedures to apply when these are out of control
- Standard operating procedures (SOP'S) for all tests and equipment
- Preparation of good quality blood films, cytology smears from fine needle aspirates (FNA) and fluid samples
- Microscopy, blood films, urine analysis and identification of common endo- and ectoparasites
- Handling and evaluation of haematology, chemistry, microbiology, and cytology samples for their condition and suitability for transport to reference laboratories for testing
- Guidelines for choosing an external testing laboratory for both routine testing and special tests (for example, endocrinology, immunology)

Cytology

- Understand the relative advantages/disadvantages of cytology, needle aspirate and biopsies, impression smear cytology and histology, and their integration in case analysis
- Guidelines for choosing an external testing laboratory for both routine testing and special tests (e.g. endocrinology, immunology)

Laboratory data analysis; general principles

- Quality of samples
- Effects of interferences, for example, aging, haemolysis, lipidaemia, drugs on test results
- Use of reference intervals (normal values) for interpretation of results

Evaluation of results in relation to clinical and historical information

- Evaluation of initial in house and /or external haematology and chemistry results as a basis for assessing the need for further special testing (e.g. endocrinology, immunology, virology)

Special species (select one of the following)

- a) Small mammals (including rabbits)
- b) Large companion animals (including horses)
- c) Food and production animals (including poultry)
- d) Other – birds, reptiles etc (including smallholders' poultry)

For the chosen group:

- Use of laboratory tests in the diagnosis of anaemia and other haematopoietic abnormalities and an understanding of the pathophysiology of the changes
- Evaluation of blood films

- Cytological evaluation of common samples (e.g. fluids, aspirates, ear swabs, urine)
- Use of laboratory tests as aids in the diagnosis and monitoring of diseases i.e. renal, hepatic, gastrointestinal, endocrine, neoplasia, infectious disease

Assessment Strategy

Module providers are responsible for deciding on assessment strategies and methods, subject to accreditation by RCVS.