Collect, prepare, and examine blood samples from animals

Level 5
Credits 6

Purpose People credited with this unit standard are able to: collect blood; prepare a slide for examination, and examine a blood smear; carry out tests on whole blood using appropriate equipment or kits; perform in-house tests using kits; and maintain workplace and safety of workplace and self in the course of duties.

Subfield Animal Care and Handling
Domain Animal Care
Status Registered
Status date 30 June 1996
Date version published 25 June 2007
Planned review date 31 July 2009
Entry information Open.

Accreditation Evaluation of documentation and visit by NZQA, industry and teaching professional in the same field from another provider.

Standard setting body (SSB) Primary Industry Training Organisation

Accreditation and Moderation Action Plan (AMAP) reference 0228

This AMAP can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.
Special notes

1 For credit, evidence must be in accordance with the statutory and industry requirements contained in the following documents.
Relevant New Zealand Veterinary Association (NZVA) standards, available from NZVA, PO Box 11-212, Manners Street, Wellington (http://www.vets.org.nz) including the current versions of Standard Procedures for Veterinary Nursing and Animal Care (referred to in this unit standard as standard procedures) and BESTPRACTICE™ Companion Animal Practice Standards.

2 In-house procedures refer to the documented policies and procedures for animal care, handling, and ethical behaviour codes required by the employer.

3 Underpinning Knowledge
The following areas of knowledge underpin performance of the elements in this unit standard:
Element 1
Methods of restraint
Veins and sample sites suitable for collection of samples according to species
Equipment required and amount to withdraw according to test
Role of anticoagulants, types of anticoagulants according to test
Effect of haemolysis on results
Methods of storage of plasma, serum, whole blood
Blood volumes according to species

Element 2
Routine care, cleaning, daily maintenance of microscope to maintain in good working condition
Normal composition and appearance of blood, reasons for variations
Methods of carrying out differential counts
Stains for smears and reasons for use

Element 3
Normal pack cell volume (PCV) according to species, significance of abnormal and normal values and appearance
Routine care, cleaning, daily maintenance of colorimeter, haematocrit, refractometer, haemocytometer, microscope, centrifuge.
Elements and performance criteria

Element 1

Collect blood.

Performance criteria

1.1 Equipment for blood collection is assembled and labelled according to type of sample and test required.

Range appropriate vacutainers, appropriate vacutainer needle, microtainer, haematocrit (HCT) blood tube, appropriate syringe and needle.

1.2 Animal is restrained without causing undue stress, and site is clipped, cleaned, and aseptically prepared for venipuncture.

1.3 Blood vessel is raised for sampling and sample collected, in accordance with type of test required.

1.4 Needle is withdrawn from blood vessel and site treated to prevent haemorrhage.

1.5 Sample is transferred to bottle or tube in a manner that prevents haemolysis and handled according to test required.

Element 2

Prepare a slide for examination, and examine a blood smear.

Performance criteria

2.1 A blood smear is prepared and labelled for examination without causing damage to individual cells.

2.2 Blood smear is stained using method appropriate for type of stain and type of test to be carried out.

2.3 Blood sample is examined and identified in terms of changes in numbers, size, and shape of cells.

2.4 Any deviation from normal values are recognised according to standard procedures, recorded, and reported to veterinarian according to in-house procedures.
Element 3

Carry out tests on whole blood using appropriate equipment or kits.

Range  haemoglobin, PCV, total white cell count, red blood cell count, total protein analysis, plasma protein analysis, heartworm microfilaria, clotting time, platelet count, differential white cell count, reticulocyte count, blood glucose, blood urea nitrogen (BUN), parvovirus, progesterone.

Performance criteria

3.1 Equipment required for specialist testing is prepared according to type of test required.

Range  colorimeter, haematocrit spinner, slides, centrifuge, refractometer, haemocytometer, stains, dipsticks, automated cell counter.

3.2 Sample is prepared in haematocrit tube, centrifuged to separate components, and results are measured, according to standard procedures.

Range  PCV, plasma protein analysis, buffy coat, plasma appearance.

3.3 Sample is examined for presence of heartworm microfilaria according to standard procedures.

Range  blood smear, haematocrit tube, commercial methods.

3.4 Results are recorded and reported according to in-house procedures.

Element 4

Perform in-house tests using kits.

Range  Feleuk, FIV, parvovirus, progesterone, blood urea nitrogen, blood glucose.

Performance criteria

4.1 Tests are carried out using dipstick method according to manufacturer's instructions.

4.2 Tests are carried out using blood chemistry analysis kits according to manufacturer's instructions.

4.3 Results are recorded and reported to the veterinarian according to in-house procedures.
Element 5

Maintain workplace and safety of workplace and self in the course of duties.

Performance criteria

5.1 Designated working area kept specifically for the purpose, is clean and organised to prevent contamination in accordance with NZVA Companion Animal Practice Standards.

5.2 Special wastes are placed in safety approved polythene bags or containers and disposed of according to workplace health and safety protocol.

5.3 Quality control measures are followed in accordance with diagnostic test specifications to ensure accurate results.

Range records, equipment, reagents, technical integrity.

5.4 Protective clothing and disposable gloves are used throughout the process where there is a known or suspected personal safety risk, in accordance with NZVA Companion Animal Practice Standards.

5.5 Safe working practices are adopted according to practice policies on all matters of health and safety according to the Health and Safety in Employment Act 1992 and workplace safety plan.

5.6 Stocks of laboratory supplies are checked and re-ordered according to in-house procedures.

Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact the Primary Industry Training Organisation standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.