

<b>Title</b>	<b>Collect, prepare, and examine blood samples from animals</b>		
<b>Level</b>	<b>5</b>	<b>Credits</b>	<b>6</b>

<b>Purpose</b>	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.
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<b>Classification</b>	Animal Care and Handling > Animal Care
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 For credit, evidence must be in accordance with the statutory and industry requirements contained in the following documents.  
 Relevant and current National Animal Welfare Advisory Committee (NAWAC) Codes of Welfare and Codes of Recommendations and Minimum Standards, available at <http://www.maf.govt.nz>, under animal welfare.  
 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*.  
 Animal Welfare Act 1999, Health and Safety in Employment Act 1992, and any subsequent amendments.
- 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:
  - Outcome 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

**Outcome 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

**Outcome 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.

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**Outcomes and performance criteria****Outcome 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.

**Outcome 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.

### **Outcome 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.

### **Outcome 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.

## Outcome 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.

**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	30 June 1996	31 December 2022
Revision	2	16 December 1996	31 December 2022
Revision	3	16 November 1998	31 December 2022
Revision	4	7 June 2000	31 December 2022
Rollover and Revision	5	25 June 2007	31 December 2022
Review	6	22 October 2020	31 December 2022

<b>Consent and Moderation Requirements (CMR) reference</b>	0228
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.