



Australian Government

MSL954003 Relate anatomical and physiological features to laboratory samples

Release: 1

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Modification History

Release	Comments
Release 1	New unit. This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i> .

Application

This unit of competency describes the skills and knowledge to recognise and interpret different types of biological test samples to direct the specimen to the correct laboratory for appropriate testing. It covers knowledge of anatomy to interpret histology samples and knowledge of physiology to interpret pathology samples.

This unit applies to laboratory technicians who work in histology, microbiology, haematology and biochemistry. The unit principally refers to human pathology but many aspects are relevant to veterinary pathology. This unit of competency assumes that the laboratory technician would perform tests and procedures under the close supervision of scientific and/or medical staff. Although a supervisor may not always be present, the technician will follow standard operating procedures (SOPs) that clearly describe the scope of permitted practice in modifying testing procedures, interpretation of data and for communicating test results to people outside the laboratory.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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1	Work with information of body systems and organs	1.1	Correctly identify the basic structure and main functions of human body systems
		1.2	Correctly identify the basic structure and main function of organs within each body system
		1.3	Use correct terminology to describe body systems and organs macroscopically
		1.4	Identify broad streams of disease that effect body systems and organs
2	Work with information of tissues and cells	2.1	Correctly identify basic microscopic structure and main function of tissue types
		2.2	Correctly identify basic microscopic structure and main function of cells
		2.3	Use correct terminology to describe tissue and cell types
3	Identify and direct test specimens	3.1	Use knowledge of body systems, organs and tissues to confirm macroscopic appearance of fresh, fixed and treated biological test samples
		3.2	Confirm macroscopic appearance of test sample matches test request
		3.3	Direct test specimen to appropriate laboratory for dispatch

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

No equivalent unit.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

Assessment Requirements for MSL954003 Relate anatomical and physiological features to laboratory samples

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- correctly identified the macroscopic appearance of at least 5 different test samples from each of the following:
 - organs
 - tissues
 - body fluids
- for each test sample, identify the appropriate laboratory for dispatch.
- correctly identified the microscopic appearance of at least 5 different cell types from each of the following:
 - blood cells
 - tissue cells.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- fundamental word structure used in medical terms.
- body systems:
 - muscular system
 - skeletal system
 - digestive system:
 - small intestine
 - large intestine
 - cardiovascular system
 - respiratory system
 - urinary system

- nervous system
- sensory system
- reproductive system
- endocrine system
- integumentary system
- lymphatic/immune system
- types of tissue:
 - epithelial
 - connective
 - muscular
 - nervous
 - vascular
 - glandular
 - lymphatic
- basic cell types, their functions and locations:
 - histological
 - haematological
- types of specimens and relating organs, including:
 - histology
 - formal and fixed tissue (punch biopsy, core biopsy, wedge biopsy, cytology, full organs)
 - fresh
- microbiology:
 - fresh tissue
 - stool
 - body fluids:
 - blood
 - urine
 - sputum
 - swabs
 - cerebral spinal fluid (CSF)
- haematology and immunohaematology:
 - blood products
 - bone marrow
- biochemistry:
 - whole blood
 - plasma
 - fresh tissue
 - body fluids

- basic principles of innate and acquired immunity as they relate to each of the body systems
- broad streams of disease as they relate to body locations/sample types:
 - cancer
 - metabolic
 - microorganisms
 - hormonal
- nature of precious specimens:
 - CSF
 - time sensitive
 - temperature sensitive
 - autopsy
- roles of different coagulants
- roles of different transport media
- common abbreviations for medical and pharmacological terms:
 - for histology: FEC, IF, EM, LM, IHC, HE, ISH
 - for microbiology: MSC, culture, sensitivity, CSF, MSU
 - for haematology: FBC, Hct, ESR, Coags, INR
 - for biochemistry: Disacc, Fe, LFT, TFT, Chol, Trig, PSA, EUC, CEA.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable resources, including:
 - a range of specimens covering fresh, fixed and treated biological test samples from different body systems, organs, tissue types, cells and diseases.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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