



Australian Government

MSL975064 Perform chemical pathology tests

Release: 1

MSL975064 Perform chemical pathology tests

Modification History

Release 1. Supersedes and equivalent to MSL975037 Perform chemical pathology tests. Element 3 integrated into Element 2. Minor changes to Performance Criteria and Knowledge Evidence with removal of terminology item (covered in other aspects of Knowledge Evidence).

Application

This unit of competency describes the skills and knowledge to perform tests and procedures associated with the detection and monitoring of tissue and bodily fluid responses to normal physiological processes and disease through the identification and quantifying of chemical components. It covers tests and procedures that are usually associated with the discipline of clinical biochemistry.

This unit applies to laboratory technicians working in the biomedical industry sector. The unit principally refers to human pathology but many aspects are relevant to veterinary pathology. This unit of competency describes the testing of tissues, blood, bodily fluids (cerebrospinal fluid, peritoneal and wound aspirates, sweat and sputum), calculi, and excreta (urine and faeces) in laboratories. Tests examine and measure compounds that can give information about alterations in individual physiology and pathology, or compounds, such as therapeutic drugs or drugs of abuse, that will alter normal physiology. The tests are performed in a full or partial computerised and automated environment where large numbers of samples must be managed, analysed and their results recorded. This unit of competency assumes that the technical officer would perform tests and procedures under the close supervision of scientific and/or medical staff. Although a supervisor may not always be present, the technical worker will follow workplace procedures 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

MSL974034 Perform biological procedures

Competency Field

Testing

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Process samples and associated request forms	1.1 Identify specimens and request forms that do not comply with workplace requirements 1.2 Record any discrepancies or sample quality issues and indicate action required 1.3 Register samples in accordance with workplace procedures, recording details that allow accurate tracking and chain of custody traceable to employee
2. Perform tests	2.1 Select authorised tests indicated for the requested investigations 2.2 Conduct tests in accordance with documented methodologies, applying required quality control procedures 2.3 Flag test results that are outside accepted quality control limits 2.4 Apply quality control processes to discriminate between significant data and artefact 2.5 Record all test data and perform required calculations noting any phenomena that may be relevant to the treatment of data or the interpretation of results 2.6 Follow procedures to ensure traceability of sample from receipt to reporting of results

Foundation Skills

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

- Planning and organising skills to manage own work and ensure the timely completion of tasks.

Other foundation skills essential to performance are explicit in the performance criteria of this unit

Unit Mapping Information

Supersedes and is equivalent to MSL975037 Perform chemical pathology tests.

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 MSL975064 Perform chemical pathology tests

Modification History

Release 1. Supersedes and equivalent to MSL975037 Perform chemical pathology tests. Element 3 integrated into Element 2. Minor changes to Performance Criteria and Knowledge Evidence with removal of terminology item (covered in other aspects of Knowledge Evidence).

Performance Evidence

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

- safely performed at least 4 different tests or procedures associated with the detection and monitoring of tissue and bodily fluid responses to normal physiological processes and/or disease through the identification and quantification of chemical or biochemical components, including:
 - identifying and measuring chemical substances such as biologically significant ions, proteins or metabolites that are associated with organ dysfunction or indicators of success or failure of treatment

enzymatic assay testing for biological activity indicative of organ or tissue damage and at least 1 of the following:

- immunoassay such as testing for autoimmunity, drugs of abuse, therapeutic drug monitoring, toxin or current/prior exposure to infective agents (antigens and/or antibodies)
- testing to quantify immunological protein, such as immunoglobulin or complement protein.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- medical terminology relevant to normal and abnormal chemical pathology
- workplace procedures for selection and use of testing procedures in terms of the supposed or defined clinical problem
- handling of unstable or hazardous chemicals or samples and/or the fragile/labile nature of biological material
- processing and storage requirements for chemical pathology samples to ensure sample integrity prior and post testing
- principle and purpose of test methods implemented (why they are used and what they demonstrate)
- significance of quantifying routine biological ions, proteins and hormones
- significance of the detection and measurement of drugs, toxins, enzyme activity

- immunological concepts including:
 - the role of antigens, antibodies and proteins in disease diagnosis
 - antibody and protein structure and function
 - characteristics of polyclonal versus monoclonal antibodies
 - principle of immunological assays including ELISA and indirect immunofluorescence
- interpretation of results and identification of results requiring urgent reporting due to critical clinical significance
- selection and use of quality control and quality assurance processes for the issuance of meaningful results
- sources of pre- and post-analytical errors and corrective actions
- management of workflow for effective and efficient use of resources
- technological advances that include automation
- legal, ethical and work health and safety (WHS) requirements specific to the work task including traceability, confidentiality and security requirements of all clinical information, and laboratory data and records.
-

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 facilities, equipment and resources, including:

- a standard chemical pathology laboratory with relevant equipment, samples and reagents, laboratory information system, databases and record/filing system
- workplace procedures, test methods and equipment manuals.

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

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>