



Australian Government

MSL975037 Perform chemical pathology tests

Release: 1

MSL975037 Perform chemical pathology tests

Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. Supersedes and equivalent to MSL975004 Perform chemical pathology tests. Conditional/optional prerequisite removed – code retained. Changes to elements and performance criteria. Foundation skills information added. Range of conditions removed. Assessment requirements amended.

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 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

MSL974021 Perform biological procedures

Competency Field

Testing

Elements and 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 minimum industry requirements for labelling, identification and test requests |
| | | 1.2 | Record any discrepancies and indicate what action is required |
| | | 1.3 | Log samples, recording details that allow accurate tracking and chain of custody |
| | | | |
| 2 | Perform tests | 2.1 | Select authorised tests indicated for the requested investigations |
| | | 2.2 | Conduct individual tests, or batches of tests, according to documented methodologies, applying required quality control procedures |
| | | 2.3 | Manage tasks and organise work to ensure efficient use of time |
| | | 2.4 | Flag test results that are outside accepted quality control limits |
| | | 2.5 | Apply quality control processes to discriminate between significant data and artefact |
| | | 2.6 | Confirm with supervisor any further testing requirements |
| | | 2.7 | Record all test data, noting any phenomena that may be relevant to the treatment of data or the interpretation of results |
| | | | |
| 3 | Maintain | 3.1 | Record entries on report forms or into a laboratory |

Elements describe the essential outcomes.

**laboratory
records**

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

information management system, accurately calculating, recording or transcribing data as required

3.2 Ensure samples and associated paperwork maintain traceability throughout testing

Foundation Skills

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

- Oral communication skills to interact effectively with supervisors and managers (laboratory, quality and customer service), personnel in other laboratories in the workplace or in other workplaces to which work may be referred, customers, patients and clients, external auditors and accreditation agencies, such as National Association of Testing Authorities (NATA)

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

Unit Mapping Information

Equivalent to MSL975004 Perform chemical pathology tests, Release 1.

Links

Training Package Companion Volumes -

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

Assessment Requirements for MSL975037 Perform chemical pathology tests

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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:

- 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 disease through the identification and quantifying of chemical components, including:
 - identifying and measuring chemical substances that are associated with organ dysfunction or indicators of success or failure of treatment
 - detecting and measuring drugs and toxins
 - testing for biological activity, such as assessment of enzyme activity indicative of organ/tissue damage
 - testing for evidence of prior exposure to infective agents such as identifying plasma changes that are consequent to, or associated with, immune responses (antigens and/or antibodies).

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- scientific, clinical, technical and workplace terminology relevant to normal and abnormal anatomy, physiology, biochemistry and immunology to enable efficient communication with laboratory and clinical staff
- 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, antibodies and antigens
- immunological concepts including:
 - acquired immunity
 - antibody structure and function
 - characteristics of polyclonal versus monoclonal antibodies
 - principle of immunological assays
- interpretation of test results that have meaningful 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 work flow for effective and efficient use of resources
- technological advances that include automation
- awareness of environmental sustainability issues as they relate to the work task
- 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
 - instruments, such as manual and automated spectrometers and other related measurement devices, and various discrete and multi-channel analysers for chemical analytes
 - workplace procedures, test methods and equipment manuals.

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

Links

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