



Australian Government

MSL975002 Perform haematological tests

Release: 1

MSL975002 Perform haematological tests

Modification History

Release 1. Supersedes and is equivalent to MSL975002A Perform haematological tests

Application

This unit of competency covers the ability to determine levels, function, activity and interactions of cellular and plasma components of blood using tests and procedures identified with the discipline of laboratory haematology.

This unit of competency is applicable to laboratory technicians and technical officers working in the biomedical industry sector. While this unit focuses on the laboratory investigation of human physiology and pathology, it reasonably describes aspects of work performed in veterinary settings. The unit of competency assumes that technical personnel would perform tests and procedures under close supervision. The results of their work would also normally be integrated, interpreted and reported on by supervising scientists and medical pathologists. Although a supervisor may not always be present, the technician will follow standard operating procedures (SOPs) that will clearly describe the scope of permitted practice in modifying testing procedures, interpreting data and for communicating test results to people outside the laboratory. People performing haematology tests will meet the requirements of the laboratory that they are working in regarding the education and training they must have to perform the tests.

While no specific licensing or certification requirements apply to this unit at the time of publication, laboratory operations are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

MSL973007 Perform microscopic examination

Competency Field

Testing

Unit Sector

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 | Process samples and associated request details | <ul style="list-style-type: none">1.1 Sort specimens according to tests requested, urgent status and volume1.2 Return samples and request forms that do not comply with requirements to their source with reasons for non-acceptance1.3 Log acceptable samples and request forms, applying required document tracking mechanisms1.4 Process samples as required by requested tests1.5 Store samples and sample components appropriately until ready for testing |
| 2 | Perform tests | <ul style="list-style-type: none">2.1 Select authorised tests that are indicated for the requested investigations2.2 Conduct individual tests according to documented methodologies, applying required quality control procedures2.3 Record all results, noting any phenomena that may be relevant to the interpretation of results2.4 Seek advice of section head or other responsible colleague when result interpretation is outside parameters of authorised approval2.5 Store unused sample or sample components, for possible future reference, under conditions suitable to maintain viability |
| 3 | Maintain a safe environment | <ul style="list-style-type: none">3.1 Use established safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other laboratory personnel3.2 Clean up spills using appropriate techniques to protect personnel, work area and environment from contamination3.3 Minimise the generation of wastes3.4 Ensure the safe disposal of biohazardous materials and other laboratory wastes in accordance with workplace |

procedures

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|---|------------------------------------|--|
| 4 | Maintain laboratory records | 4.1 Make entries on report forms or into computer systems, accurately calculating, recording or transcribing required data as required

4.2 Update instrument maintenance logs as required by accreditation checklists

4.3 Maintain security and confidentiality of all clinical information, laboratory data and records |
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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.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Standards, codes, procedures and/or workplace requirements

Standards, codes, procedures and/or workplace requirements include the latest version of one or more of:

- Australian and international standards, guidelines and codes covering competence of testing and calibration laboratories, laboratory safety, biological safety cabinets, occupational protective equipment, labelling of workplace substances, storage and handling of dangerous goods, physical containment levels and facility types, safety cabinets, work health and safety (WHS) requirements, quality management and environmental management
- specific regulations, codes, guidelines and business rules, such as Human Tissue Acts and regulations, Australasian Society of Blood Transfusion Guidelines for Pre-transfusion Testing, and Australian Red Cross Blood Service
- workplace documents, such as SOPs; quality procedures; equipment manuals; calibration and maintenance schedules; material safety data sheets (MSDS) and safety procedures; laboratory schedules; workplace recording and reporting

procedures; waste minimisation, containment, processing and safe disposal procedures; and cleaning, hygiene and personal hygiene requirements

- instructions to comply with new legislation, standards, guidelines and codes
- sampling procedures (labelling, preparation, storage, transport and disposal) and test procedures (validated and authorised)
- schematics, work flows, and laboratory stock records and inventory
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Communication

Communication involves interactions with one or more of:

- supervisors and managers (laboratory, quality and customer service)
- other laboratory or clinical personnel
- patients and clients
- personnel of accreditation agencies (e.g. national Association of Testing Authorities (NATA))

Safe work practices

Safe work practices include, but are not limited to, one or more of:

- ensuring access to service shut-off points
- recognising and observing hazard warnings and safety signs
- labelling of samples, reagents, aliquoted samples and hazardous materials
- handling and storage of hazardous materials and equipment in accordance with labelling, MSDS and manufacturer instructions
- identifying and reporting operating problems or equipment malfunctions
- cleaning and decontaminating equipment and work areas regularly using workplace procedures
- using PPE, such as gloves, safety glasses, coveralls and gowns
- using containment facilities (e.g. PCII, PCIII and PCIV physical containment laboratories), containment equipment (e.g. biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets) and containment procedures

WHS and environmental management requirements

WHS and environmental management requirements include:

- complying with WHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time
- applying standard precautions relating to the potentially

hazardous nature of samples

- accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health, where relevant

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSL975002A Perform haematological tests

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MSL975002 Perform haematological tests

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Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- safely performing at least five (5) haematological tests or procedures to determine levels, function, activity and interactions of cellular and plasma components of blood
- accurately counting and measuring blood cells
- deriving cell data to assist with classification of cell populations
- staining cells, identifying their morphology and classifying them
- determining the amount and function of blood components, such as haemoglobin
- measuring clinically phenomena, such as the erythrocyte sedimentation rate or detecting markers of immune response
- assessing haemostasis by performing coagulation, fibrinolysis and thrombosis tests
- preparing documentation that is accurate, concise and in accordance with workplace requirements
- managing and organising work to ensure the timely completion of tasks
- critically analysing information and documents and recognising problems in systems and documentation
- using workplace information systems efficiently
- using samples, reagents and materials economically and disposing of wastes safely
- maintaining security and confidentiality of all clinical information, laboratory data and records
- maintaining equipment and recording and reporting malfunctions in accordance with workplace requirements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- scientific, medical, clinical, technical and workplace terminology relevant to normal and abnormal haematology, including anatomy, physiology, genetics, biochemistry and immunology
- the investigation of blood cell disorders, including anaemia, leucocytosis, leucocytopenias, leukaemia and thrombocytopenia
- heritable and acquired coagulopathies and therapeutic drug-related alterations in haemostatic and coagulation mechanisms
- haematological responses to infection, immunisation and malignancy

- necessity for a patient or client focus when performing laboratory procedures and tests, including issues of confidentiality and security of clinical and laboratory information and data
- relationships that exist between the sample and the test result, including:
 - sample collection
 - the preservation and timely testing of samples
 - sample storage requirements and issues of artefact
 - sub-sampling routines, including the nature of unstable particulate suspensions
 - validated tests
 - quality control
 - quality assurance
- use and maintenance of laboratory equipment and resources that contribute to accurate, precise, timely and economical generation of data for use by clinicians
- relevant hazards, work health and safety (WHS) and environment requirements.

Assessment Conditions

- Judgment of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
 - MSL925001 Analyse data and report results
 - MSL934002 Apply quality system and continuous improvement processes
- Holistic assessment methods include:
 - review of results/data/records generated by the candidate
 - feedback from peers and supervisors that the candidate follows workplace procedures consistently and that tasks are performed in accordance with workplace requirements
 - oral and/or written tests and paper problems associated with haematological test methods and laboratory processes, such as equipment calibration and maintenance
 - observation of the candidate performing haematological tests
 - integrated assessment with a case study focus, such as:

- performance of the routine full blood count, including the examination of the stained blood film
- a coagulation screen, including tests to measure anti-vitamin K and anti-heparin therapeutic agents, and the counting of platelets
- studies that can assist in identifying relationships between quantitative data from blood counts and morphological findings from stained blood films.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
 - a standard haematology laboratory with relevant equipment, samples and reagents, laboratory information system, databases and record/filing system
 - instruments for the semi-automated or automated electronic counting and partial characterisation of blood cells, the measurement of haemoglobin and the computation of red cell indices
 - workplace procedures, test methods and equipment manuals.
- Under duty of care requirements, off-the-job training providers should ensure that blood samples are known to be antibody free for hepatitis B and C, syphilis and human immunodeficiency virus (HIV). However, this does not reduce the need for universal precautions in the use of samples.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competence and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience.
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment OR
 - having consulted with a laboratory about performing the competency being assessed within the last twelve months.
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