



**Australian Government**

# **MSL975006 Perform immunohaematological tests**

**Release: 1**

# MSL975006 Perform immunohaematological tests

## Modification History

Release 1. Supersedes and is equivalent to MSL975006A Perform immunohaematological tests

## Application

This unit of competency covers the ability of technical personnel to perform routine tests and procedures that are part of the requirements of pre- and post-blood transfusion practice. The unit also covers tests and procedures that are indicated in laboratory investigations in obstetric and perinatal medicine, in suspected haemolysis and haemolytic episodes, and in other clinical circumstances.

This unit of competency is applicable to technical officers and laboratory technicians working in the biomedical industry sector. It is understood that the management of any transfusion laboratory would establish for itself, in terms of its own responsibility and purposes, the ability of any worker to work in a transfusion science laboratory, regardless of the education and training record or presumed ability of any worker.

Tests will be related to the determination of blood groups and the detection of antibodies of significance in:

- transfusion (as laboratory evidence that *in vivo* cell destruction or immunisation may occur)
- pregnancy and the peri-natal period (as evidence of sensitisation of foetal red cells by transplacental maternal antibody)
- the investigation of haemolysis or haemolytic episodes.

The tests that the worker will use will be validated and authorised procedures, clearly described in the laboratory's manual of procedures. The unit of competency is based on the assumption that technical personnel would perform tests and procedures under the close supervision of scientific and/or medical staff. The parameters of interpretation will be clearly described, indicating for the worker what he or she is permitted to sign-off without reference to supervisors or managers.

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

MSL974006 Perform biological procedures

## 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.

- |   |                                              |     |                                                                                                                                    |
|---|----------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Process samples and associated request forms | 1.1 | Check and match samples and request forms before they are accepted                                                                 |
|   |                                              | 1.2 | Return samples and request forms that do not comply with requirements to their source with reasons for non-acceptance              |
|   |                                              | 1.3 | Log acceptable samples, applying required document tracking mechanisms                                                             |
|   |                                              | 1.4 | Process samples as required by requested tests                                                                                     |
|   |                                              | 1.5 | Store sample components appropriately until required for testing                                                                   |
|   |                                              |     |                                                                                                                                    |
| 2 | Perform tests                                | 2.1 | Select authorised tests that are indicated for the requested investigations                                                        |
|   |                                              | 2.2 | Conduct individual tests according to documented methodologies, applying required quality control procedures                       |
|   |                                              | 2.3 | Record all results, noting any phenomena that may be relevant to the interpretation of results                                     |
|   |                                              | 2.4 | Seek advice of section head or other responsible colleague when result interpretation is outside parameters of authorised approval |
|   |                                              | 2.5 | Store unused samples, for possible future reference, under conditions suitable to maintain viability                               |
|   |                                              |     |                                                                                                                                    |
| 3 | Maintain a safe                              | 3.1 | Use established work practices and personal protective equipment (PPE) to ensure personal safety and that of                       |

|   |                                |     |                                                                                                                                     |
|---|--------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------|
|   | environment                    |     | other laboratory personnel                                                                                                          |
|   |                                | 3.2 | Clean up spills using appropriate techniques to protect personnel, work area and environment from contamination                     |
|   |                                | 3.3 | Minimise the generation of wastes                                                                                                   |
|   |                                | 3.4 | Ensure the safe disposal of biohazardous materials and other laboratory waste in accordance with workplace procedures               |
| 4 | Maintain laboratory records    | 4.1 | Make entries on report forms or into computer systems, accurately recording or transcribing required data as required               |
|   |                                | 4.2 | Maintain instrument logs as required by accreditation checklists                                                                    |
|   |                                | 4.3 | Maintain records of blood and blood products received, used and returned to supplier                                                |
|   |                                | 4.4 | Maintain security and confidentiality of all clinical information, laboratory data and records                                      |
| 5 | Issue blood and blood products | 5.1 | Complete documentation required to permit the issuing of blood or blood components that have been cleared for use by clinical staff |
|   |                                | 5.2 | Advise courier of transport requirements to ensure blood or blood products are delivered in a timely and safe manner                |

## 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), and quality 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 standard operating procedures (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

### **Communication**

Communication involves interactions with one or more of:

- supervisors and managers (laboratory, quality, customer service)
- other laboratory personnel or relevant medical or nursing personnel
- couriers, patients and clients
- external auditors, or accreditation agency such as the 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 MSL975006A Perform immunohaematological 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 MSL975006 Perform immunohaematological 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) immunohaematological tests following the laboratory's validated and authorised procedures
- performing tests accurately and organising work to ensure the timely release of blood and blood products and needs of relevant patients and clients are met
- selecting and performing testing procedures in terms of the suspected or known nature of the antibody and its possible range of testing behaviours
- detecting and recording accurate evidence of blood group antigen and antibody reactions
- selecting, testing and issuing blood cleared for transfusion
- selecting and applying confirmatory tests
- selecting and issuing blood products for therapeutic or prophylactic use
- preparing documentation that is accurate, concise and in accordance with workplace requirements
- 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 anatomy, physiology, biochemistry, immunology and immunohaematology
- antigen antibody reactions
- testing procedures for the determination of blood groups and the detection of antibodies
- types of blood products and their use
- validated and authorised procedures, as described in the laboratory's manual of procedures

- 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:
  - MSL934002 Apply quality system and continuous improvement processes
  - MSL975002 Perform haematological tests
- 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 associated with ABO group determination, antibody identification and record keeping
  - integrated assessment with a case study focus, such as the routine pre-transfusion cross-match, an antenatal antibody detection and preliminary identification, batch of routine ABO and Rh(D) groups to be completed at the same time as completion of a pre-transfusion battery of tests
  - observation of the candidate performing immunohaematological tests.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
  - a standard transfusion/immunohaematology laboratory with relevant equipment, samples, reagents, laboratory information management system, databases and record/filing system
  - workplace procedures, test methods and equipment manuals.
- Under duty of care requirements, off-the-job training providers must ensure that blood samples are known to be antibody free for hepatitis B and C, syphilis and human immunodeficiency virus (HIV), but this does not preclude the use of universal precautions in the use of blood 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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