



Australian Government

MSL975056 Perform advanced histological techniques

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSL975028 Apply advanced embedding and microtomy skills. Title changed. Content removed that duplicates the required prerequisite unit and changes to clarify Performance Evidence.

Application

This unit of competency describes the skills and knowledge required to perform procedures associated with embedding tissue and performing microtomy on those tissues in preparation for staining for examination of tissue structure and abnormalities by pathologists and scientists to assist with disease diagnosis.

This unit applies to laboratory technicians and technical officers in the biomedical sector. The unit principally refers to techniques performed on human tissues, but many aspects may be relevant to animal and plant tissues. 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 technician will follow workplace procedures that will clearly describe the scope of permitted practice in modifying testing and quality control procedures. Technical workers may need to interrupt their routine work in order to assist with or perform procedures to facilitate rapid diagnosis of specimens.

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

MSL975057 Perform histological tests.

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.

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1. Prepare specialised tissues	1.1 Prepare agar plugs for cytological or minute specimens in accordance with workplace procedures 1.2 Prepare blood clot for processing in accordance with workplace procedures 1.3 Prepare friable /tiny tissue in sponges and/or wrapped to ensure tissue integrity and prevent loss during processing in accordance with workplace procedures 1.4 Decalcify bone in accordance with workplace procedures
2. Embed tissue	2.1 Identify and prioritise specimens prior to embedding 2.2 Select appropriately sized mould 2.3 Embed tissue types in correct orientation and characteristics that minimise tissue loss and artefacts during microtomy 2.4 Embed tissue with embedding orientation markings 2.5 Confirm number of tissues is as expected and record any discrepancies 2.6 Inspect blocks, reject and re-embed items that do not meet quality control standards
3. Cut tissue sections	3.1 Prepare and adjust all external parts of a microtome and associated equipment to accommodate requirements of tissue batch 3.2 Orientate the block correctly for each specific tissue in order to maintain sample integrity and minimise artefacts 3.3 Apply microtomy techniques to trim blocks to full face without significant loss of tissue 3.4 Cut and pick up thin tissue sections according to needs of subsequent procedures, maintaining sample integrity, minimising artefacts and conserving tissue for further testing 3.5 Inspect sections and reject any that do not meet quality control standards 3.6 Identify, troubleshoot and resolve common section quality control issues 3.7 Apply quality control procedures to troubleshoot discrepancies between request-sheet and sections on slides

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

Supersedes and is equivalent to MSL975028 Apply advanced embedding and microtomy skills.

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>