



Australian Government

Assessment Requirements for MSL975028 Apply advanced embedding and microtomy skills

Release: 1

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Modification History

Release	Comments
Release 1	New unit. This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i> .

Performance Evidence

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

- embedded at least 15 tissue types that are flat, correctly orientated and in a single layer of wax, including at least 1 of each of the following:
 - large tissues
 - small tissues
 - multiple small biopsies in a single block
 - epithelial tissue such as skin or tongue with embedding orientation
 - tissue prone to distortion
 - bone
 - shave biopsies
 - friable/tiny tissue
 - excision biopsies
 - fatty tissue
 - bloody tissue
 - blood clot
 - agar plugs
- recorded log sheet discrepancies and indicated what level of action is required, i.e. record only, contact submitter, continue testing or halt testing or return sample to their source with reasons for non-acceptance
- numerically ordered blocks for microtomy
- cut at least 50 paraffin embedded sections, with minimal wrinkles, scores and folds, at the specified thickness (the complete surface of the tissue must be present on all slides with the remaining tissue in the block conserved for future testing) to industry standard, including:
 - at least one slide from each of the special preparation blocks.

- 1 slide each from 15 different blocks cut on the one occasion
- at least 15 different tissue types
- 1 slide containing two ribbons with at least 3 serial sections per ribbon
- 1 slide containing 3 ribbons with at least 2 serial sections per ribbon
- 2 slides with both a section of “sample” tissue and “control” tissue
- 2 slides with at least 3 levels on each.
- 1 slide with a section 2-3µm
- labelled all slides clearly with minimum legal traceability requirements
- microscopically inspected sections after haematoxylin and eosin (H&E) staining to identify microtomy quality issues and recommend solutions.
- identify tissue types by sight at embedding and microtomy.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- specialised handling requirement for cortical and trabecular bone including bone marrow trephines
- nature of and criteria for embedding a wide variety of clinically significant tissue including:
 - large tissues
 - small tissues
 - multiple small biopsies in a single block
 - epithelial tissue such as skin or tongue with embedding orientation
 - tissue prone to distortion
 - bone, both solid and trabecular
 - shave biopsies
 - excision biopsies
 - fatty tissue
 - bloody tissue
 - blood clot
 - agar plugs
- functions of the components of an embedding centre
- role of reprocessing tissue that fail processing quality control checks at embedding
- relationship between correct orientation of the tissue during embedding and ability to cut sections from surface required for subsequent microscopic examination
- implications of various quality control issues in embedding on microtomy quality control
- functions of the components of a rotary microtome
- purpose of microtome orientation mechanism
- how decalcifiers, tissue softeners, cold plates and wet ice are used in microtomy
- Royal College of Pathologists of Australasia (RCPA) recommendations for specialised cutting techniques and practices for different tissue types including renal, liver and gastric biopsies, lymph nodes and alopecia specimens.

- how section adherents are used for specialised staining techniques
- requirements and purpose of instrument logs
- workplace and/or legal traceability requirements
- protocols for drying cut sections for routine and specialised staining
- workplace safety procedures and precautions for:
 - handling potentially hazardous chemicals, such as decalcifiers, tissue softeners, slide adhesives and paraffin wax
 - embedding and microtomy
 - sharps and broken glassware
- awareness of environmental sustainability issues as they relate to the work
- legal, ethical and work health and safety (WHS) requirements specific to the work task, including 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 histology laboratory with relevant equipment, samples and reagents, filing systems
 - 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>