



Australian Government

Assessment Requirements for 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.

Performance Evidence

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

- 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
- embedded each of the following tissue types flat, correctly orientated and in a single layer of wax:
 - core biopsy
 - multiple tiny specimens in a single block
 - punch biopsy of epithelial tissue with embedding orientation
 - tissue prone to distortion
 - bone or other hard tissue
 - shave biopsy or on edge specimen
 - friable tissue processed with sponges
 - excision biopsy
 - fatty tissue
 - bloody tissue or blood clot
 - agar plug
- cut at least 40 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 embedded tissue types described above
 - 1 slide each from 11 different blocks cut on the one occasion
 - 1 slide containing at least 3 serial sections
 - 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
- inspect sections to identify microtomy quality issues and recommend solutions.
- identify tissue types by sight at embedding and microtomy.

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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- specialised handling requirement for cortical and trabecular bone including bone marrow trephines
- orientation criteria for embedding a wide variety of clinically significant tissue, including:
 - 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
- role of reprocessing tissue that fail processing quality control checks at embedding
- implications of various quality control issues in embedding on microtomy quality control
- 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
- 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 and slide adhesives
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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, reagents and 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>