



## Pathology: A Guide to Candidates

### The Role of Pathology

In simple terms medical imaging provides radiologists with information regarding the location and morphologic features of disease. Such findings are integrated into the clinical situation before provision of a differential diagnosis and any recommendations for further investigation. Information derived from images must therefore be interpreted against a sound knowledge of disease processes and their various clinical manifestations. The role of pathology is to strengthen the trainee's radiological ability and their capacity to consult with clinicians and to provide assistance to others within the medical system. Few radiological appearances are pathognomonic. It is through a thorough knowledge of medicine and pathology that a radiologist is able to restrict and appropriately order their differential diagnosis, assess what information is necessary in a report, and communicate in appropriate fashion. Pathology is studied with a view to improving radiological ability, allowing the best possible patient care by speeding diagnosis, reducing unnecessary worry or investigation and through all of this, increasing the status of the discipline of radiology.

To facilitate the objectives above, a trainee's study of pathology should be directed to ways of macroscopically categorising abnormalities within organ systems, suggesting the likely disease processes and their points of differentiation. Additional emphasis is placed upon diseases in which the radiologist plays a major role in assessment, but thorough knowledge of any common clinical condition (e.g. myocardial infarction) is considered just as relevant to the candidate's ability to function as a collaborator and scholar. Special emphasis is placed upon on knowledge of those aspects of a disease which impact on radiological management (e.g. SLE causing renal impairment with implications for contrast studies or juvenile angiofibromas with haemorrhagic potential). The depth of knowledge expected is that of a distinction in an Australia / New Zealand undergraduate medical degree.

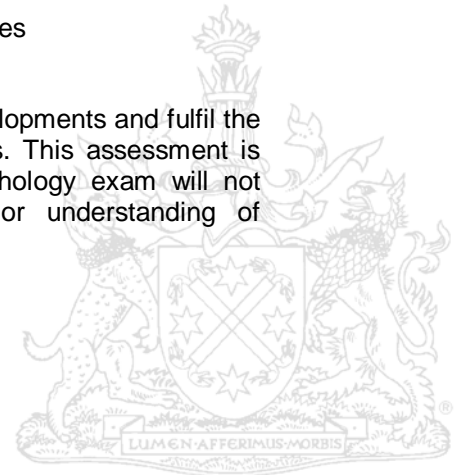
### Examination Related Information and Standards

The fundamental principle is that a passing candidate will demonstrate a level of knowledge that:

1. Confirms that they are safe to the general public
2. Confirms that they can assist clinical colleagues

The latter requires that they:

- have a basic understanding of clinical issues facing other disciplines
- are able to interact with colleagues as equals
- will not mislead them through ignorance
- have sufficient knowledge of pathology to understand future developments and fulfil the role of a radiologist as a consultant in multidisciplinary settings. This assessment is independent of their radiological knowledge or skills. The pathology exam will not assess perception or interpretation of radiological images or understanding of underlying theory.



Whilst weight is given to the features of macroscopic differentiation, it is important to recognise that imaging occurs in a clinical context. It is expected that trainee's knowledge will extend beyond gross morphology (size, shape margins etc) to those aspects of pathology that will assist differential diagnosis. This includes an appreciation of the clinical setting and the diagnostic implications to the patient and treating physician. Of necessity the trainee's knowledge includes some or part of the following when they impact upon a diagnostic setting; **age, epidemiological profiles (sex, race), clinical manifestations, predisposing conditions, ancillary tests, complications and associations, prognosis, likely clinical course and treatment.** To facilitate communication with clinicians and the public alike it is expected candidates will have a *basic understanding* of **pathogenesis, definition of the disease/ nature of the diagnostic criteria and major classifications.** It is accepted that these categories will not be known for all conditions, but where they are provided in the core textbook, (Robbins and Cotran's, *Pathologic Basis of Disease*, 9<sup>th</sup> Edition), they should be known.

A candidate should have knowledge that is required in practice. They should have a broad understanding of the place of further investigations and also, the planning of biopsy, safety of biopsy, appropriate media for specimens and tests that might have to be specifically requested on the initial sample. Considerations here include the roles and diagnostic value of FNA as opposed to core biopsy in different conditions. If certain tests are relevant at the time of biopsy and should be requested their relevance should be known (e.g. flow cytometry for lymphoma, cytogenetics for tumours such as neuroblastoma and receptor assays for breast carcinoma).

It is accepted that pathology is a separate discipline and detailed knowledge of histopathology is not required. No photomicrographs (images of histology) will be used. HOWEVER, where histologically-named subtypes exist which have different macroscopic appearances, different aetiologies or other points of clinical relevance, the candidate should be aware of the definition of those subtypes and broadly understand the points of differentiation. (e.g. an angiomyolipoma is a benign vascular mass containing fat, smooth muscle and glandular elements, if chromosomal analysis should be definitely be requested on biopsy this should be known but it would NOT be expected that the actual chromosomal features will be learnt).

There will always be topics that candidates feel are peripheral, excessive in depth or beyond the knowledge relevant to a practice of radiology. Such questions do not reflect a pass or fail situation and the candidate should appreciate that this is a decision for the examiners. Such questions may be asked to determine level of their knowledge (e.g. if a candidate is doing well) or clarify a previous reply - a candidate does not fail because of a minor error. The following are guidelines for both candidates and examiners in such settings:

1. With respect to aspects which impact upon radiological diagnosis, clinical discussion and management outlined above, the breadth and depth expected is that of a distinction in an Australia / New Zealand undergraduate medical degree. This implies a thorough knowledge of the core text and is in line with the CanMEDS role of scholar and educator.
2. Separate to this is a basic core of knowledge of medicine, which is separate from radiological knowledge but which is considered important to the standing of the radiologist as a colleague. It is knowledge that permits a radiologist to interact with and maintain the respect of other clinicians, understand their issues, and easily gain knowledge from self directed learning. This is best defined as knowledge, the lack of which, **would fail** a candidate in an undergraduate course (e.g. not knowing what a nephron is). This knowledge is expected. It is this knowledge, in part, that separates us from experienced senior radiographers.
3. There are aspects of some diseases that are considered more important than others. These are aspects that directly impact upon radiological practice: e.g. knowing that SLE can cause a photosensitive malar rash is less important to a radiologist than knowing it can cause renal impairment. Such aspects are given special weight and are regarded as more important than those others which are more relevant to the practice of other fields of medicine. Detailed knowledge that has its main relevance to other disciplines (e.g. physician's diagnostic criteria) will not be tested beyond an "in principle" understanding.

