

## **Specialty Training Requirements (STR)**

Name of Specialty:	Anatomical Pathology
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## Scope of Anatomical Pathology

*Anatomical Pathology* is the study of organs and tissues to determine the causes and effects of particular diseases. Anatomical Pathology comprises basic pathology, general surgical pathology, subspecialised surgical pathology, cytopathology, autopsy as well as newer advances such as molecular and bioinformatics & digital pathology. It provides critical support for the effective practice of all major branches of medicine and surgery.

## Purpose of the Residency Programme

The purpose of the Anatomical Pathology residency programme is to provide an organised educational experience for qualified physicians seeking to acquire the basic competence of an Anatomical Pathologist.

The Anatomical Pathology Residency Programme aims to produce clinicians who are:

1. Competent and safe to practice at consultant level as an Anatomic Pathologist i.e. being able to independently report routine Surgical Pathology and Cytopathology cases, as well as realise their own limitations and when to refer for further opinion.
2. Familiar with accessioning, processing, sectioning and staining of histology and cytology material, including special techniques such as histochemistry, immunohistochemistry, immunofluorescence, electron microscopy and molecular tests, to be able to interact appropriately with medical technologists over those aspects of the technical work for which they are responsible. This includes possessing sufficient knowledge of laboratory procedures to be able to troubleshoot problems including issues with fixation, artefacts, staining problems, to ensure accurate and high-quality material is available for the formulation of diagnostic opinions.
3. Familiar with and can properly manage a laboratory in terms of laboratory safety, audit and overseeing accreditation with various professional bodies.

## Admission Requirements

At the point of application for this residency programme,

- a) Applicants must be employed by employers endorsed by Ministry of Health (MOH); and
- b) Residents who wish to switch to this residency programme must have waited at least one year between resignation from his / her previous residency programme and application for this residency programme.

At the point of entry to this residency programme, residents must have fulfilled the following requirements:

- c) Hold a local medical degree or a primary medical qualification registrable under the Medical Registration Act (Second Schedule);
- d) Have completed Post-Graduate Year 1 (PGY1); and
- e) Have a valid Conditional or Full Registration with Singapore Medical Council (SMC).

### Selection Procedures

Applicants must apply for the programme through the annual residency intake matching exercise conducted by MOH Holdings (MOHH).

Continuity plan: Selection should be conducted via a virtual platform in the event of a protracted outbreak whereby face-to-face on-site meeting is disallowed and cross institution movement is restricted.

### Less Than Full Time Training

Less than full time training is not allowed. Exceptions may be granted by Specialist Accreditation Board (SAB) on a case-by-case basis.

### Non-traditional Training Route

The programme should only consider the application for mid-stream entry to residency training by an International Medical Graduates (IMG) if he /she meets the following criteria:

- a) He / Her is an existing resident or specialist trainee in the United States, Australia, New Zealand, Canada, United Kingdom and Hong Kong, or in other centres / countries where training may be recognised by the SAB
- b) His / Her years of training are assessed to be equivalent to the local training by Joint Committee on Specialist Training (JCST) and / or SAB.

*Applicants may enter residency training at the appropriate year of training as determined by the Programme Director (PD) and RAC. The latest point of entry into residency for these applicants is Year 1 of the senior residency phase.*

### Separation

The PD must verify residency training for all residents within 30 days from the point of notification for residents' separation / exit, including residents who did not complete the programme.

### Duration of Specialty Training

The training duration must be 60 months, comprising 36 months of junior residency and 24 months of senior residency.

*Maximum candidature: All residents must complete the training requirements, requisite examinations and obtain their exit certification from JCST not more than 36 months beyond the usual length of their training programme. The total candidature for Anatomical Pathology is 60 months Anatomical Pathology residency + 36 months candidature.*

### “Make-up” Training

“Make-up” training must be arranged when residents:

- Exceed days of allowable leave of absence / duration away from training; or
- Fail to make satisfactory progress in training.

The duration of make-up training should be decided by CCC and should depend on the duration away from training and/or the time deemed necessary for remediation in areas of deficiency. The CCC should review residents’ progress at the end of the “make-up” training period and decide if further training is needed.

Any shortfall in core training requirements must be made up by the stipulated training year and / or before completion of residency training.

### Learning Outcomes: Entrustable Professional Activities (EPAs)

Residents must achieve level 4 of the following EPAs by the end of residency training:

	<b>Title</b>
<b>EPA 1</b>	<u>Conducting Clinico-Pathologic Conferences</u>
<b>EPA 2</b>	<u>Handling of Gross Specimens</u>
<b>EPA 3</b>	<u>Ensuring Clinical Quality in an Anatomic Pathology Laboratory</u>
<b>EPA 4</b>	<u>Reporting of Microscopy</u>
<b>EPA 5</b>	<u>Performing Intra-operative Diagnostic Analysis</u>

### Learning Outcomes: Core Competencies, Sub-competencies and Milestones

The programme must integrate the following competencies into the curriculum, and structure the curriculum to support resident attainment of these competencies in the local context.

Residents must demonstrate the following core competencies:

#### 1. Patient Care and Procedural Skills

Residents must demonstrate the ability to:

- Gather essential and accurate information about the patient
- Counsel patients and family members
- Make informed diagnostic and therapeutic decisions
- Prescribe and perform essential medical procedures
- Provide effective, compassionate and appropriate health management, maintenance, and prevention guidance

*Some of the above generic requirements may not apply to specialties that are not patient fronting.*

. Residents must demonstrate ability to:

- Provide appropriate and effective pathology services and consultations;
- Interpret laboratory data as part of patient-care decision-making and patient-care consultation.

## **2) Medical Knowledge**

Residents must demonstrate increasing knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioural sciences, as well as the application of this knowledge to patient care.

Residents must demonstrate knowledge of:

- autopsy and surgical pathology
- cytopathology
- paediatric pathology
- dermatopathology
- forensic pathology
- immunopathology
- histochemistry
- neuropathology,
- ultrastructural pathology
- cytogenetics
- molecular biology.

## **3) Systems-based Practice**

Residents must demonstrate the ability to:

- Work effectively in various health care delivery settings and systems relevant to their clinical specialty
- Coordinate patient care within the health care system relevant to their clinical specialty
- Incorporate considerations of cost awareness and risk / benefit analysis in patient care
- Advocate for quality patient care and optimal patient care systems
- Work in inter-professional teams to enhance patient safety and improve patient care quality. This includes effective transitions of patient care and structured patient hand-off processes.
- Participate in identifying systems errors and in implementing potential systems solutions

## **4) Practice-based Learning and Improvement**

Residents must demonstrate a commitment to lifelong learning.

Resident must demonstrate the ability to:

- Investigate and evaluate patient care practices
- Appraise and assimilate scientific evidence
- Improve the practice of medicine
- Identify and perform appropriate learning activities based on learning needs

## **5) Professionalism**

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles including the SMC's Ethical Code and Ethical Guidelines (ECEG).

Residents must:

- Demonstrate professional conduct and accountability
- Demonstrate humanism and cultural proficiency
- Maintain emotional, physical and mental health, and pursue continual personal and professional growth
- Demonstrate an understanding of medical ethics and law

## **6) Interpersonal and Communication Skills**

Residents must demonstrate ability to:

- Effectively exchange information with patients, their families and professional associates.
- Create and sustain a therapeutic relationship with patients and families
- Work effectively as a member or leader of a health care team
- Maintain accurate medical records

### **Other Competency: Teaching and Supervisory skills.**

Residents must demonstrate ability to:

- Teach others
- Supervise others

### **Learning Outcomes: Others**

Residents must attend Medical Ethics, Professionalism and Health Law course conducted by Singapore Medical Association (SMA).

### **Curriculum**

The curriculum and detailed syllabus relevant for local practice must be made available in the Residency Programme Handbook and given to the residents at the start of residency.

The PD must provide clear goals and objectives for each component of clinical experience.

### Learning Methods and Approaches: Scheduled Didactic and Classroom Sessions

The programme must schedule the following didactic and classroom sessions with 70% minimum attendance by residents:

- Daily case signout
- Journal club
- Specimen prosection
- Pathology tutorials
- Multidisciplinary meetings
- National Training Programme (NTP)
- Peer review learning

Continuity plan: In the event of a protracted outbreak whereby face-to-face on-site meeting is disallowed and cross institution movement is restricted, the meetings / tutorials / teachings should be held online.

### Learning Methods and Approaches: Clinical Experiences

Residents must complete the following Minimum Core Rotations:

- General surgical pathology and subspecialties (at least 42 months)
- Cytopathology – at least 3 months
- Informatics and digital pathology - at least 1 month
- Molecular pathology - at least 1 month

Continuity plan: Cross-cluster movement should be reduced / delayed if possible in the event of protracted outbreak.

### Learning Methods and Approaches: Scholarly/Teaching Activities

Residents must complete the following scholarly activity by the end of residency:

	Name of activity	Brief description: nature of activity, minimum number to be achieved, when it is attempted
1.	Oral / Poster Presentation / Journal Publication	At least 1 poster or oral presentation or be 1 <sup>st</sup> author in a medical scientific publication.

Continuity plan: virtual conferences and tele-education items can be included.

### Learning Methods and Approaches: Documentation of Learning

Residents must perform and log the following by the end of their residency:

- Minimum 3500 surgical pathology cases
- Minimum 1000 cytology cases (gynae + non-gynae)
- Minimum 150 frozen sections

Residents must be regularly involved in consultative activity and presentation at least two times per year, e.g. Clinical Pathological Correlation (CPC) or Multidisciplinary Teams (MDT); provide patient-care consultations that should be intra- and inter-

departmental; **perform in excess of 150 frozen section cases over 5 years cumulatively**, and, be given direct responsibility to make decisions in the laboratory when operating under appropriate supervision.

### Summative Assessments

	Summative assessments	
	Clinical, patient-facing, psychomotor skills etc.	Cognitive, written etc.
R5	<p>1. FRCPATH Part 2 and Certificate of Higher Cervical Cytology training (CHCCT)</p> <p>OR</p> <p>2. RCPA Part 2</p> <p><u>FRCPATH Part 2:</u></p> <ul style="list-style-type: none"> <li>- 20 Slides 3 hours 20 minutes</li> <li>- 4 gross cases 1 hour</li> <li>- 4 Long cases 1 hour 20 minutes</li> <li>- 6 Frozen section cases 40 minutes</li> <li>- 8 non-gynaecology cytology cases 1 hour 20 minutes</li> </ul> <p><u>Certificate of Higher Cervical Cytology Training (CHCCT):</u></p> <ul style="list-style-type: none"> <li>- 20 Slides 3 hour 20 minutes</li> </ul> <p><u>RCPA Part 2:</u></p> <ul style="list-style-type: none"> <li>- 15 Slides 4.5 hours</li> <li>- 20 small biopsy / special techniques cases 3.5 hours</li> <li>- Cytology cases 2.5 hours</li> </ul>	<p><u>FRCPATH Part 2:</u></p> <ul style="list-style-type: none"> <li>- OSPE (Objective Structured Practical Examination) 40 minutes</li> </ul> <p><u>Certificate of Higher Cervical Cytology Training (CHCCT):</u></p> <ul style="list-style-type: none"> <li>- Written paper 2 hours</li> </ul> <p><u>RCPA Part 2:</u></p> <ul style="list-style-type: none"> <li>- Structured oral examination 1 hour</li> </ul>
R4	NIL	NIL
R3	RCPA Part 1: 4 hours 15 minutes practical examination of 20 cases (slides)	<p>FRCPATH Part 1: 125 MCQ 3 hours</p> <p>Or</p> <p>RCPA Part 1: 3 hours 15 minutes written paper (5 sets of short answer questions)</p>
R2	NIL	NIL
R1	NIL	Basic Pathological Sciences Examination: 100 MCQs 2 hours 30 minutes



S/N	<b><u>Learning outcomes</u></b>	<b><u>Summative assessment components</u></b>			
		Component a: MCQ	Component b: Slides Examination	Component c: OSPE Examination	Component d: Viva (oral examination)
1	EPA 1: <u>Conducting Clinico-Pathologic Conferences</u>	✓		✓	✓
2	EPA 2: <u>Handling of Gross Specimens</u>	✓		✓	✓
3	EPA 3: <u>Ensuring Clinical Quality in an Anatomic Pathology Laboratory</u>	✓		✓	✓
4	EPA 4: <u>Reporting of Microscopy</u>	✓	✓	✓	✓
5	EPA 5: <u>Performing Intra-operative Diagnostic Analysis</u>	✓	✓	✓	✓